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THERAPEUTICS OF THE EYE AND EAR

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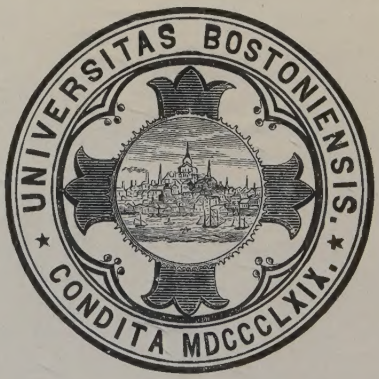

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THERAPEUTICS

OF THE

EYE AND EAR.

THERAPEUTICS

OF THE

EYE AND EAR.

AN ELEMENTARY MANUAL

BY

C. H. VILAS, M.A., M.D.,

PROFESSOR OF DISEASES OF THE EYE AND EAR IN THE HAHNEMANN MEDICAL COLLEGE, AND CLINICAL PROFESSOR OF EYE AND EAR DISEASES IN THE HAHNEMANN HOSPITAL, CHICAGO, ILLINOIS; PRESIDENT OF THE WESTERN ACADEMY OF HOMŒOPATHY; PRESIDENT OF THE AMERICAN OPHTHALMOLOGICAL AND OTOLOGICAL SOCIETY; AUTHOR OF "SPECTACLES, AND HOW TO CHOOSE THEM"; "THE OPHTHALMOSCOPE, ITS THEORY AND PRACTICAL USES;" ETC., ETC.

WITH A REPERTORY OF THE EYE.

CHICAGO:
W. A. CHATTERTON.
A. L. CHATTERTON PUB. CO., NEW YORK.
1883.

28.A.426

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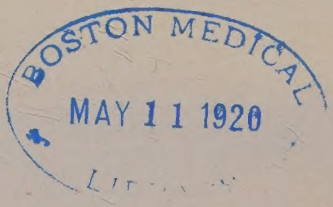

THIS MANUAL

IS DEDICATED TO

THE ALUMNI AND STUDENTS OF THE

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL,

CHICAGO, ILLINOIS;

IN REMEMBRANCE OF THE MANY HAPPY HOURS SPENT TOGETHER IN THE LECTURE HALLS;
IN APPRECIATION OF THE INTEREST SHOWN IN THE HOSPITAL DRILL, AND IN ESPECIAL
RECOGNITION OF THE UNIFORM COURTESY, KINDNESS AND AFFECTION EVER
EXTENDED TO

THE AUTHOR.

Preface.

When the author began his teaching of diseases of the eye and ear as part of a regular medical education at the Hahnemann Medical College and Hospital, of Chicago, he found no text-book adapted to the wants of beginners. This volume is the outgrowth of some notes then made on the therapeutics of the eye and ear, and printed for the author's convenience as a teacher. Published for the use of his students they found favor to an extent beyond what he deemed their merits, and he allowed them to be sold to the profession.

They were never designed as, or thought to be, complete, or necessarily original, but aids embracing that which the author considered ought to be understood by the pupils entrusted to his teaching. To them he from time to time added a fuller outline of the commoner diseases, and although including but a limited number of the diseases known to the intelligent specialist, he believes that the text comprises as many as will be mastered in the time now allotted to a general medical education. Diseases of the lens, choroid, retina, optic nerve, orbit, sclera, vitreous

humor, etc., are omitted for this reason, as well as that the author believes that they should not be treated by one who is unfamiliar with advanced teaching and constant practice. Good specialists are now to be found in all the great centers of population, and with the present facilities of access the day has gone by when the general practitioner is compelled to assume the charge of such diseases.

At the College and Hospital, however, these notes have at all times been supplemented by clinical teaching demonstrating the great majority of all known diseases, and the witnessing of the operations incidental to all branches of the art. Used there and carried home by the students who from year to year left this medical center, and by them found valuable since they became practitioners, many of his old pupils have requested the publication of the notes in book-form; from which it is hoped that this volume will prove valuable to the general practitioner who, though he shun all operations, is compelled from the nature of the diseases to treat many of them until such time as the patients can be sent to a specialist in these diseases.

No endeavor, therefore, has been made to get up a large volume, but one as practical as possible. To this end the author has condensed his expressions, avoided technicalities, and not given many remedies in the text, confining himself

to those which he has found most useful in his own practice. Those who desire more should search the Repertory and complete works, or refer the case to one who makes an exclusive study of the eye and ear, branches of the medical art rightly relegated to practitioners specially qualified in them.

The question of the curability of diseases by internal remedies alone has not been touched upon by the author, because he is of the opinion that those who depend on internal medication alone will never cure all cases which might be cured were they treated with all the means at our command. While isolated cases of reported cures by methods not of a safe nature, or general application, may interest our attention, test our credulity or excite our admiration, they should not induce the hasty displacement of those means of time-tried value; neither should those of acknowledged world-wide applicability be smothered with ill-considered adulation of the as yet partially proven, or less valuable, remedies.

It is not of any practical moment whether diagnoses are made in Latin or some other language, so that the trouble is understood and intelligently treated; but as Latin or Greek are universal languages in which names for the diseases of the eye and ear are found, the author has adopted them, or their derivatives, for headings, to ensure uniformity. But the English names, when there are any, have also been

given to facilitate a practical familiarity with diseases which might not otherwise be quickly recognized.

The author desires to express his thanks to Geo. W. Dunn, M.D., of Atlanta, Ill., for his labors in the preparation of the Repertory of the Eye; and to his assistant, Dr. F. A. Stevens, for his aid in proof-reading while the volume was passing through the press.

The attention of the profession, and of the laity too, is being rapidly drawn to the great value of the eye and ear in diagnosticating occult diseases of the general system, by reason of the great number of ophthalmic and otic diseases associated with the latter. The connection of eye complaints with diseases of the kidneys is now acknowledged, and diagnostic often; with those of the uterus thoroughly established, and in many forms of uterine complaint valuable in diagnosis; with those of the brain fully recognized, etc.; and diseases of the ear are being slowly unfolded in their relation to the same organs. While such knowledge must largely ever remain in the possession of the specialist, for life is short and art immeasurable, in the years which the author hopes are yet before him, the confidence reposed in him by the profession, with the experience gained in private practice, in the frequent visiting of the great hospitals of the world, and in the management of one of the largest eye

and ear clinics in the great cities, may encourage the publication of a volume which will be exhaustive and warrant a claim to originality.

In the meantime, however, he begs to express his full appreciation of the many kindnesses and words of encouragement which have been so generously extended him, and to trust that some aid may be gained from this little volume, as well as from those which have gone before it.

CHICAGO,
January, 1883.

CONTENTS.

OCULAR THERAPEUTICS.

INTRODUCTION, - - - - - - - - 19

THE CORNEA:

Keratitis, - - - - - - - - 25
" Suppurativa, - - - - - - 28
" Vasculosa, - - - - - - 30
" Parenchymatosa, - - - - - 30
" Phlyctenularis, - - - - - 31
Internal Remedies, - - - - - 32

THE IRIS:

Iritis, - - - - - - - - 37
" Plastica, - - - - - - - 38
" Serosa, - - - - - - - 38
" Parenchymatosa, - - - - - 39
Irido-Cyclitis, - - - - - - - 40
Myosis, - - - - - - - - 42
Mydriasis, - - - - - - - - 42
Irido-Choroditis, - - - - - - 43
Internal Remedies, - - - - - - 44

THE CONJUNCTIVA:

Conjunctivitis, - - - - - - - 52
" Catarrhalis, - - - - - - 52
" Purulenta, - - - - - - 54

Conjunctivitis Granulosa, - - - - - 55
" Diphtheritica, - - - - 57
" Phlyctenularis, - - - - 58
Pterygium, - - - - - - - 59
Internal Remedies, - - - - - - 59

GLAUCOMA:
Glaucoma, - - - - - - - 64
Internal Remedies, - - - - - - 66

LOCAL APPLICATIONS:
Mydriatics, - - - - - - - 68
Myositics, - - - - - - - 72
Miscellaneous, - - - - - - 73

REFRACTION AND ACCOMMODATION:
Elementary Definitions, - - - - - 81
Asthenopia Accommodativa et Muscularis, - - - 82
Astigmatismus, - - - - - - 83
Myopia, - - - - - - - 84
Hypermetropia, - - - - - - 87
Presbyopia, - - - - - - - 89
Spectacles, or Lenses, - - - - - 89

THE LIDS:
General Definitions, - - - - - - 91
Blepharitis Ciliaris, - - - - - - 92
Internal Remedies, - - - - - - 93

LACHRYMAL APPARATUS:
Dacryo-Cystitis, - - - - - - 97
Dacryo-Blenorrhœa, - - - - - - 98
Internal Remedies, - - - - - - 98

INJURIES,
To the Globe, - - - - - - 100

From Quicklime, - - - - - - 101
" Acids, - - - - - - 102
" Burns and Scalds, - - - - - 102
" Foreign Bodies, - - - - - - 104

TUMORS,
In General, - - - - - - - 105
Minor Lid-Tumors, - - - - - - 105

AURAL THERAPEUTICS.

EXTERNAL EAR:
The Auditory Canal, - - - - - 109
Furunculi, - - - - - - - 111
Eczema, - - - - - - - 112
Internal Remedies, - - - - - - 113
Otitis Parasitica, - - - - - - 114
The Auricle, - - - - - - 115

MIDDLE EAR:
Otitis Acuta Media Catarrhalis, - - - - 117
" " " Purulenta, - - - - 119
Internal Remedies, - - - - - - 122
Otitis Chronica Media Catarrhalis, - - - - 123
" " " Purulenta, - - - - 126
Consequences of Chronic Inflammation, - - - 128
Mastoid Complications, - - - - - 130
Internal Remedies, - - - - - - 131
Methods of Inflation, - - - - - 134
Artificial Membrana Tympani, - - - - 136

INTERNAL EAR:
Nervous Deafness, - - - - - - 138
Tinnitus Aurium, - - - - - - 140
Deaf-Mutism, - - - - - - 142

REPERTORY OF THE EYE, - - - - - - - 147
Remarks and Explanations, - - - - - - 230

INDEX, - - - - - - - - - - 231

OCULAR THERAPEUTICS.

Ocular Therapeutics.

INTRODUCTION.

It is of the utmost importance in eye diseases to be able to make a correct diagnosis. There are certain leading symptoms which may indicate the disease, and give a clue to its origin.

Thus a patient who seeks advice about his eyes will generally lay stress upon

a. Some external inflammatory or irritative symptoms;

b. Defective sight alone;

c. A squint or some other disfigurement, or inability to open or to shut the lids;

d. Or pain may be the chief or only symptom.

A. When there are symptoms of external irritation or inflammation.

I. If there is watering, photophobia, or swelling of the

lids, with or without redness of the eye, and defective sight:

Carefully look for foreign bodies, such as bits of coal, etc., in the cornea or in the folds of transmission of the conjunctiva. If on or embedded in the former, a spud may be necessary to remove them; if on the latter a touch of the index finger, or a bit of twisted paper, will remove them.

Examine the lids for ophthalmia tarsi, styes, irregular growth of the lashes, meibomian and other tumors. Eczematous patches are often found on the lids in phlyctenular troubles. These also extend to the malar region of the face and nose, and not infrequently to the ears.

Crusts may be found on the lids, exposing, on removal, an inflamed edge of the lids (blepharadenitis).

Look at the inner surface of the lower lids; if there be thickening or redness, evert and examine also the upper lid (for granular disease).

To evert the upper lid (eversion is not required for the lower one) seize hold of the lashes with the thumb and finger and draw it out from the globe, then place the tip of the forefinger of the other hand about its center, to act as a fulcrum and, telling the patient to look down, quickly turn the lid up and over.

A lid elevator is of no value in looking at conjunctival troubles, but it is useful in those of a corneal nature. Sometimes it may be found necessary to give chloroform or ether to quiet children in corneal or iritic trouble.

Examine the surface of the eyeball carefully as to degree and character of congestion, whether local or general, affecting the exposed or only the covered parts, due to superficial, tortuous, bright red vessels (conjunctivitis), or to deeper, straighter, pink or purplish vessels (ulcers of cornea, iritis, cyclitis). Spots or pustules, with local congestion may be present (phlyctenular ophthalmia).

The cornea may show one or more spots or patches of opacity (injuries, foreign bodies and ulcers of cornea), or be hazy all over (keratitis), or show a number of minute dots at its lower part (keratitis punctata).

The chief symptom may be persistent watering of one eye (lachrymal obstruction, etc.,) slight soreness, blinking, a little watery or gummy discharge, and inability to use the eyes long, or to bear bright light or strong winds (mucocele, hypermetropia, myopia, asthenopia).

II. The chief symptom may be discharge with congestion of the eye and lids (conjunctivitis);

Or spasmodic closure of the lids and photophobia (corneal diseases).

III. Defect of sight may be especially complained of, with more or less inflammatory signs and with or without severe pain.

Examine the cornea for ulcers and other haziness; the pupil for size, mobility and clearness; and the iris for color and general appearance (iritis, glaucoma).

Feel the tension and ascertain roughly the condition of the visual field and note accurately the near and distant sight.

B. The complaint is of defective sight in one or both eyes without other symptoms.

Such symptoms, whether symmetrical or unilateral, may indicate an error of refraction or accommodation, or opacity of some of the media, or disease of the choroid, retina or optic nerve.

Ascertain whether one or both eyes are affected; the duration of the defect, and under what circumstances as regards the distance of objects and brightness of light it is most observed.

(Remember that defect of one eye often remains undiscovered for years until attention is accidentally drawn to it).

Is the failure of sight related to bad health or to pain in the head (albuminuric retinitis, optic neuritis, or atrophy).

Take the near and distant vision, examine the transparency of the cornea, lens (cataract), and vitreous, the color and appearance of the irides and the size, shape and mobility of the pupils (iritis,) and try the tension of the eyes (glaucoma).

If the media are clear, the iris and pupil healthy, and the ophthalmoscopic appearances normal, examine the refraction and accommodation (hypermetropia, myopia, presbyopia, paralysis of accommodation).

(Remember that presbyopia with hypermetropia causes great defect both for distant and near objects).

If opacity of vitreous or lens be suspected or proved, or if the defect of sight is not remedied by glasses, it is usually best at once to dilate the pupil with atropine

and make a more thorough ophthalmoscopic examination.

(It is necessary to examine the fundus carefully by the erect image in all doubtful cases).

If the disk appears markedly oval either before or after the use of atropine, astigmatism is to be suspected.

As to atropine, it is, as a rule, far better to use it (to the extent of dilating the pupil) than by examining with a small pupil to run the risk of overlooking small but important changes in the lens, vitreous or fundus. The necessity for its use will depend very much on the skill of the observer and on how much time he can spend over the case; for the larger the pupil the more easily and quickly is the fundus explored.

When the sight is pretty good the patient should always be warned that the atropine will dilate the pupil and make the sight dim for a day or two, or even much longer. Hydro-bromate of homatropine, one grain to the ounce of distilled water, is superior to atropia sulphate for such purpose, as the pupil contracts in much less time.

When there are changes in the optic disc or reason to suspect disease of the optic nerve, the color perception should be tested.

If the complaint is of double vision, ascertain by closing one eye whether it is binocular or monocular; monocular diplopia or polyopia is rare, and is recognized by the persistence of the symptoms when one eye is closed. Its exact pathology is not understood.

C. There is a squint or some other disfigurement or inability to open the lids (ptosis, blepharospasm).

Inability to close them (paralysis of facial nerve); or defective movement of the globe in one or the other direction (muscular paralysis); or prominence of one or both eyes (proptosis, Basedow's or Graves' disease); or the eyelids are swollen but not inflamed (emphysema, orbital tumors).

In myopia the eyes are often prominent, and if the myopia is one sided, this appearance may be unsymmetrical.

D. Pain is the chief or only symptom complained of.

Note whether it is referred to the eyeball or to the forehead or temple, etc.; whether periodic and unrelated to use of the eyes (neuralgia), or irregular in onset and related to general health, or distinctly related to use of the eyes (myopia, hypermetropia, asthenopia).

Test the sight carefully and make a careful ophthalmoscopic examination in all cases. Atropine, as a rule, will not be needed.

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THE CORNEA.

KERATITIS.

Inflammation of the Cornea.

Synonym: Corneitis.

Chief Causes. — Inflammation of adjacent parts; bad nutrition; constitutional disease; injuries; exposure.

Symptoms more or less attendant on all varieties:

1. Ciliary irritation;
2. Rosy zone of vessels around corneal margin, with conjunctival congestion;
3. Contraction of pupil;
4. Pain;
5. Photophobia and lachrymation;
6. Impaired vision.

Classification arbitrary but for convenience divided into

a. Suppurative;
b. Vascular;
c. Interstitial (synonyms: parenchymatous; diffuse);
d. Pustular (synonyms: phlyctenular; herpes of the cornea).

Note.—Keratitis may involve whole or part of the cornea, and is named according to the predominant kind of inflammation present.

Opacities are frequently the result of keratitis. Are superficial and deep; former affecting epithelium — generally

curable; latter affecting parenchyma—seldom curable. Faint superficial opacity is called *nebula;* when Bowman's or the anterior elastic layer, is affected, *albugo;* when the deeper layers are affected and white, *leucoma;* when combined with prolapse and adhesion of iris, *leucoma adherens.*

An opacity may be so situated as to be no hinderance to vision, or it may shut out vision wholly or in part. May cause cross-eye, nystagmus, etc. If unsightly, it may be stained with india-ink, but the operation is dangerous, unless carefully performed by one who is thoroughly conversant with eye diseases. Cloudiness of cornea may be due to glaucoma, serous iritis, irido-choroiditis, or other disease, the cornea being secondarily implicated, and the real cause overlooked. This is a common error, involving loss of sight in many cases.

The cornea becomes turbid, swollen and thinned; it may burst and contents prolapse, forming a staphyloma. Corneal curvature thus becomes astigmatic, and the vision becomes damaged or destroyed, or the globe may become so misshapen and deformed as to be wholly sightless. Hence the caution to prevent intraocular pressure by bandage or by iridectomy.

A staphyloma may necessitate the removal of the eye, for fear of sympathetic ophthalmia of the companion eye. Some prefer to excise the anterior portion of the globe, evacuate the contents, and bringing together the remnants form a good stump for the wearing of an artificial eye. (Operation called *abcissio corneæ et evacuatio bulbi*). This operation, however, is not free from the danger of sympathetic trouble and may cause it.

Ulcers may close up, leaving only slight superficial opacities or no result of inflammation, or they may burst through suddenly carrying with the rush of the aqueous humor the iris, which becoming entangled in the wound in the process of healing forms an anterior synechia; or if opening be large, the iris may bulge through and adhering around the margin of the opening form a staphyloma. Either of these accidents, and especially the last, is dangerous in that it may lead to sympathetic irido-cyclitis, (which see). The relation of the parts becomes greatly changed also, even though temporarily, in these accidents; and when, if such happens, they return to their positions, they may be greatly damaged. The anterior lens capsule may become cataractous.

Old chronic indolent ulcers, showing little disposition to heal, may sometimes be advantageously gently touched with weak silver nitrate to stimulate them.

Caution.—Use no nitrate of silver or other irritant, or preparation of lead, in acute keratitis.

Superficial opacities will generally get well independently of remedial aid, but are accelerated by the proper remedy. Local irritants judiciously used will also hasten the tissue changes, but must be cautiously used, if at all. Internal remedies carefully selected will often hasten these changes. The Repertory should be carefully studied for the indications.

Pannus is a superficial non-inflammatory vascular opacity of the cornea. The term is often applied to acute and chronic vascular keratitis, new tissue still being in process of formation. The disease is tedious in its course, and a complete cure seldom. It is caused by granular conjunc-

tivitis, inverted lashes or other irritating substances, and requires a thorough knowledge and careful study to cure. Canthoplasty is often advisable. Hot and cold applications, syndectomy and remedies should be carefully studied and tried previous to any of the severer means. Inoculation of purulent matter is a final resort. This artificial disease is then allowed to run its course unchecked, and not unfrequently is followed by the most brilliant results.

KERATITIS SUPPURATIVA.

Suppurative Inflammation of the Cornea.

Characterized by the inflammatory infiltration becoming changed into pus, and appearing as a yellow opacity in the corneal tissue. It may be limited, or the entire cornea become a yellow necrosed mass.

Chief Causes are the same as in the other forms. It often supervenes on corneal incisions in the old or feeble. Frequently follows in corneal cataract operations, especially when the cornea has been bruised, and is sequent to severe forms of conjunctivitis. Paralysis of fifth pair of nerves, rendering cornea anæsthetic, and retarding nutrition, is also a cause.

Note.—An abscess is suppuration enclosed by corneal tissue; an ulcer is formed by an abscess opening. Ulcers also occur superficially without previous abscess, and vary in form, size and depth. Keratocele (hernia of the cornea) is formed by an ulcer penetrating to fourth layer (Descemet's membrane) of the cornea, when latter bulges forward filled

with aqueous humor from the intra-ocular pressure, and generally perforates.

When pus sinks beneath the plates of the cornea, it is called *onyx* (or *unguis*); when found in the anterior chamber, *hypopion*. Both may exist at same time. The pus may become absorbed or require to be evacuated.

When the suppuration is attended with little or no irritation and no vessels, it is especially dangerous, the cornea rapidly dying. The prognosis is more or less favorable, according as the ulcer is superficial or deep-seated.

Local Treatment.—In the beginning, atropine (see Local Applications,) and rest. Eserine may be also often used to advantage, and in some obstinate cases may be curative when atropine seems to fail. It is also to be used when the perforation is near the periphery, as it will then draw the iris away from the wound by stimulating its contractility. Later, and not too late, in the case of extensive suppuration, it may be necessary to reduce the intra-ocular tension by paracentesis or iridectomy. Large ulcers should not be allowed to burst, but paracentesis be performed through their base. Pus need not be evacuated except in hypopion, seldom then. Remedies will control these troubles. If the iris prolapse, snip it off with scissors. Saemische's operation is sometimes valuable, and may save the sight if judiciously performed when indicated. This operation consists in entering the anterior chamber with preferably a von Graefe's cataract knife in the healthy tissue on one side of the ulcer, again penetrating and bringing out the knife through the opposite corresponding portion of the healthy cornea, and then "letting the knife cut itself out" by a sawing motion

through the ulcer. Atropine with a pressure bandage should then be used. Hot water also not only relieves pain, but promotes the efficacy of the atropine, and assists in the process of healing. The pressure bandage is of the greatest value, and should not be neglected. In the neuro-paralytic form the protective bandage will suffice. (See Bandaging.)

General Treatment is all-important. The disease produces great drain on the system, and careful diet and all tonic influences should be used, The patient should be kept very quiet, and if the disease is severe, in bed.

KERATITIS VASCULOSA.

Vascular Inflammation of the Cornea.

Characterized by gray opacity of, and development of vessels on, the roughened surface of the cornea.

Note. — The loss of the epithelium, which may ensue, causes great pain from the exposure of the nerves.

Local Treatment.—Protection and rest of eyes, and atropine. Perhaps cold applications. Canthoplasty is sometimes necessary in extreme cases.

KERATITIS PARENCHYMATOSA.

Parenchymatous Inflammation of the Cornea.

Synonyms: Diffuse Keratitis; Interstitial Keratitis.

Characterized by moderate infiltration of the cornea with an opaque grayish or yellowish-white product, generally beginning at the margin and advancing toward the center, causing swelling and diffuse cloudiness. Infiltration shows

little inclination to break down, and usually collects in extensive, cloudy and distinctly-marked spots. These opacities may vary all the way from slight diffuse cloudiness to density, the cornea then looking like ground glass.

Note.—The surface may, but usually does not, retain its smooth appearance. Epithelium generally lost, vessels appearing on the surface. Often found with hereditary syphilis, when there are also present the peculiar notched teeth, the upper central incisors of the permanent set, and the peculiar physiognomy. Disease apt to be very tedious, but will recover. Cornea in rare cases is so covered with vessels as to look red, like an extravasation of blood.

Local Treatment.—Atropine at times does well, other times seems to injure; much benefit often from daturine, when atropine does not do well. Eserine may be used when the mydriatics do not do well. Protection and rest of eyes.

KERATITIS PHLYCTENULARIS.

Phlyctenular Inflammation of the Cornea.

Synonyms: Herpes Ophthalmicus; Pustular Keratitis.

Characterized by circumscribed inflammatory nodules in the superficial layers of the cornea, most often at the margin, singly or in groups.

Chief Causes.—Particularly associated with the weak, nervous and badly-nourished. Often epidemic. Seen in connection with the eruptions of herpes, eczema, etc., in the course of trifacial nerve. Irritations of ciliary nerves through the trifacial, or direct. Often associated with nasal catarrh.

Note.—Vesicles form on these nodules and burst, forming

ulcers; or they may result directly from loss of tissue on the nodules. Photophobia and pain generally very marked, former seemingly out of all proportion to the inflammation. Often combined with pustular conjunctivitis. Secretions from the eye acrid, irritating and burning the parts in contact. The disease is very apt to recur, and is much more serious than when it attacks the conjunctiva alone, though the two forms often co-exist.

Local Treatment.—Protective bandage and atropine are generally sufficient to cure a mild case. Where the disease seems firmer seated, and there is much photophobia and lachrymation, the patient (especially if a child) being inclined to bury the head in the clothes, or force it down upon the chest, a compress bandage may be needed. Proper and judicious use of the finest powdered calomel, carefully dusted on, is often of the highest advantage. Absolute cleanliness of the lids and eye is essential and must be insisted on.

It is entirely needless to keep a case dragging along by the use of internal remedies when the disease is purely local; but when the system is at fault at the same time, as it often is, all needed attention must be given to building up the patient, or local remedies will fail of effecting a cure.

Internal Remedies.

Aconitum napellus will be found useful in ulceration of the cornea, when characteristic symptoms are present, and the patient is restless, thirsty and feverish. A dry condition of the conjunctiva is a marked indication. Ulcers due to injury call for this remedy.

Apis mellifica is indicated when there are stinging pains, with a swollen, œdematous condition of the lids. A tendency to swelling of all the adjacent parts is well marked in the condition referred to, accompanied by the characteristic stinging pains. Chemosis is well met by Apis.

Argentum nitricum is a standard remedy in the ulceration of the cornea often attendant on the form of conjunctivitis known as ophthalmia neonatorum.

Care should be taken that it is not given too low. It should be accompanied by the local treatment indicated under this trouble, and in this combination will be found to attain to as near a specific as is possible for this disease.

Arsenicum has been used to great advantage in those forms in which the ulceration is accompanied by profuse and burning lachrymation with intense photophobia. The pains are worse at night, and are burning and sticking.

The lids are often spasmodically closed, excoriated by the acrid lachrymation, and swollen.

Calcarea carbonica has proven one of the most useful of all remedies.

It seems especially adapted to the form occurring in fat, unhealthy children, with pot-belly, who are extremely liable to colds.

The scrofulous diathesis especially seems to call for this remedy.

Chamomilla may be used to quiet cross, peevish children, but beyond this, has not been of any efficient service internally.

China has been used in weak, exsanguined persons with benefit.

Cimicifuga (and Spigelia, which see,) has been found valuable in wandering, shooting pains in connection with deep ulceration.

Conium maculatum has one decided value, that of relieving the marked photophobia in superficial ulceration of the cornea, whereby the terminal filaments of the nerves in Bowman's layer of the cornea become exposed.

This trouble is one of the commonest and severest in apparently slight ulceration, for on casual inspection there seems to be but little cause for the intense pain, there being little or no redness of the conjunctiva.

The pain in such cases seems wholly out of proportion to the lesions, yet such is not the case on a close inspection.

The lids are usually closed spasmodically, and on being opened the tears gush forth. The body is bent upon itself, and the head often held down firmly upon the body.

Euphrasia has enjoyed a reputation in these troubles apparently little warranted by the results attained. Its sphere of action is in another class of troubles, those of the conjunctiva.

Graphites is a valuable remedy, and when the indications are met, yields gratifying results. Corneal ulcerations occurring in scrofulous children with eczematous eruptions, especially behind the ears. An acrid discharge from the nose, which is often covered with scabs, is frequently present.

Bleeding and cracking of the external canthus usually accompany the other troubles when this remedy is needed.

Hepar sulphuris will undoubtedly cure more cases of keratitis, however, than any other remedy. In the suppurative form it is invaluable. Combined with the indicated local treatment, it will cure speedily and promptly in this form.

Hypopion (pus in the anterior chamber) is quickly absorbed by this remedy internally, rendering evacuation unnecessary.

Abscesses of the cornea usually require no other internal remedy.

Mercurius is well adapted for superficial ulceration, but not so valuable for deep, sloughing forms of keratitis.

It is a valuable remedy for vascular keratitis; often also in the phlyctenular form.

From the reputation it has proverbially enjoyed in these troubles, it is apt to be administered at once. Disappointment is often the result of its use. Time is lost and often the result delayed in giving it empirically.

The protoiodide often is successful when the other forms do not seem to work.

A dense yellow coating at the base of the tongue is often a good guide for its use.

Nux vomica is a useful remedy in the neuro-paralytic form.

Superficial ulcers have also been benefited by its use.

It is a remedy that may bring excellent results at once where the patient has been over-dosed with allopathic medicines.

Pulsatilla nigricans is one of our mainstays in the pustular form when occurring in the characteristic subject.

It seems however quite necessary to be careful in the employment of local treatment.

Rhus toxicodendron does good service in the superficial forms of keratitis, especially when produced by wet feet, or by taking cold from getting the clothing wet.

Chemosis is often quickly relieved by its use.

Silica is said to be valuable in the small, round ulcers which show a tendency to perforate.

Its sphere of action is, however, much better defined in other parts of the eye or its appendages.

Spigelia anthelmintica is very useful useful in sharp, shooting, and piercing pains, in connection with deep ulceration. The eyeballs hurt on moving them, and seem as if too large for the orbits.

Sulphur is said to have a great and usually immediate effect on the sharp, sticking pain; pains as if a needle or splinter were being thrust into the eye; when occurring between one and three o'clock in the morning.

The symptoms are aggravated by bathing the eyes, a marked contrast to the usual effect in such cases.

THE IRIS.

IRITIS.

Inflammation of the Iris.

Chief Causes. — Syphilis, exposure, rheumatism, injuries, and extension of inflammation from other parts.

Symptoms more or less attendant on all varieties:

1. Changes in color and texture of the iris (light iris becomes greenish; dark, brownish-red).
2. Alteration in form and mobility of the pupil; iris sluggish.
3. Suffusion of conjunctiva: and zone of vessels around corneo-scleral junction (which may be red, blue or brown).
4. Pain, variable (may be absent).
5. Photophobia and lachrymation.
6. Vision always impaired (should be accurately tested).

Symptom 1, with 2, are characteristic of iritis. The rest may be more or less attendant on conjunctivitis or keratitis.

Classification arbitrary, but for convenience divided into

a. Simple or plastic;

b. Serous;

c. Parenchymatous or suppurative.

Note.—Neither syphilitic, rheumatic or gonorrhœal iritis have distinctive forms, though the former is often parenchymatous. When the circumference of the pupil is wholly

adherent to the anterior capsule of the lens, the condition is called exclusion of the pupil; when area of pupil is encroached on by exudation, called occlusion of pupil. The contraction of the field of vision is due to mechanical obstruction. Adhesions of iris to the lens capsule or to the cornea are called posterior or anterior synechiæ, respectively. The various forms are often far from distinct: each may run into or be combined with another form.

The essential point in the treatment of iritis is to attack it with remedies promptly. Inefficient dilatory treatment allows synechiæ to become firmly organized and set up much internal trouble.

IRITIS PLASTICA.

Plastic Iritis.

Synonym: Simple Iritis.

Characterized by plastic exudation.

Note.—Synechiæ may be found after atropine is used, if not before.

Treatment.—See page 39.

IRITIS SEROSA.

Serous Iritis.

Characterized by hyper-secretion of the aqueous humor.

Note.—Serous iritis is an insidious disease, the symptoms are often quite dull, and the disease creeps on unawares. It is not infrequently mistaken for glaucoma, which see.

Less tendency to synechiæ. Tension increased. Pupil dilated.

Treatment.—See page 39.

IRITIS PARENCHYMATOSA.

Parenchymatous Iritis.

Synonym: Suppurative Iritis.

Characterized by well-defined, nodular masses, which are reddish-brown at first, then yellowish.

Note.—These masses are absorbed, or suppurate causing hypopion (pus in the anterior chamber).

Local Treatment.—In all forms of iritis, perfect rest of the iris and eye. This is best secured by atropine and the protective bandage. A drop of a solution of the former, of the strength of from two to four grains to the ounce should be instilled at intervals of a few minutes until dilatation of pupil is secured, and then several times a day. It may even be necessary to use solutions of atropine of strength of six to eight grains to the ounce, but with great caution. Full dilatation of the pupil is the best guide, and in most cases is essential to success. Atropine should be continued some days after all inflammation has apparently subsided. In serous iritis, a paracentesis of the cornea should be early performed, unless atropine and hot applications relieve early. Paracentesis is done by thrusting through the cornea at its periphery and parallel to the plane of the iris, a paracentesis needle, thus allowing the aqueous humor to escape. Great harm is often done to the delicate parts of the eye by dilatory treatment. Hypopion is well met by remedies, and seldom requires to be evacuated. In the parenchymatous form, anterior synechiæ may form and require to be broken up. Corelysis properly done is sometimes the best operation; improperly done it often sets up violent internal eye inflam-

mations. Iridectomy is often a necessity in serous iritis of a severe type; may be required in severe parenchymatous iritis due to syphilis; extremely seldom required in the plastic form if properly treated in the beginning. Old, badly-treated, chronic cases may require it. Sometimes when there is great intra-ocular pressure, atropine will not work until the pressure be relieved by paracentesis or otherwise.

Caution.—Use no nitrate of silver or other irritant, in iritis.

General Treatment.—Quiet the pain if there is any. Hot applications, especially hot water, will generally best accomplish this. Keep down complications with the neighboring tissues. Nothing is more beneficial to iritis than plenty of sleep. Owing to the pain and a general restlessness, this is sometimes difficult to attain, and its accomplishment should receive the attention of the physician.

IRIDO-CYCLITIS.

Inflammation of the Iris and Ciliary Body.

Chief Causes.—Often primarily, cyclitis, but generally springs up in connection with iritis, or with choroiditis. Frequently arises from injuries, such as wounds in the ciliary region, dislocated lens, or foreign body in the eye. May also be sympathetic from the other eye.

Symptoms.—Great tenderness on pressure over the ciliary region, with pain, is the main diagnostic symptom. This is not present in iritis. Accompained by turbidity of the vitreous and aqueous humors; loss of accommodation; photophobia and lachrymation; impairment of vision; zone of vessels around the cornea; increase of tension.

Note.—Irido-cyclitis is an extremely dangerous and insidious disease. It often steals on quietly without subjective warning, and hence is unnoticed until beyond hope. It often much resembles iritis, and is in consequence overlooked. An exudation is poured out which may be either serous, plastic or purulent. Either or both of the last two are the most destructive. The eye becomes hopelessly glued together or totally breaks down. When this condition is brought about by sympathetic ciliary nervous irritation from an injured companion eye, it is called "sympathetic irido-cyclitis," or "sympathetic ophthalmia." This may come on immediately or after the lapse of years.

Do not confound sympathetic irritation with sympathetic irido-cyclitis.

The former may be present and quiet down, the latter extremely seldom if ever. The symptoms of sympathetic irritation are irritation and slight injection of the eye; neuralgic pain; slight photophobia and lachrymation; eye quickly fatigues at near or fine work. These may occur frequently and pass off with no organic lesions remaining.

Local Treatment.—When primary, complete rest, protection, cold, heat, atropine, and the remedies seemingly indicated may be tried, a careful watch being kept on companion eye for first symptoms of irritation. When sympathetic, the injured eye must be removed at once. There is danger and often a very great, but not necessarily destructive, risk of sympathetic ophthalmia taken, in not enucleating an eye seriously injured by disease or wound; but so long as there is sight in the injured eye, and no sympathetic irritation in the companion eye, it may be watched and allowed to remain.

This subject will be found more carefully considered under the head of Injuries (to the ciliary region, sclera, etc.). Optico-ciliary neurotomy, an operation by which the ciliary nerves are divided, is sometimes done instead of enucleation. It is not certain to be effective, however, and is not to be recommended generally.

General Treatment.—Good food and hygienic arrangements are all-important. In acute cases the patient may be kept in the house, or in bed; but in chronic cases it is better to protect the eyes by suitable colored glasses and allow air and exercise to be freely taken.

MYOSIS.

Contraction of the Pupil.

Causes.—It is associated with diseases of the globe, and frequently calls our attention to a more serious lesion of the deeper structures.

Such cases often demand for their solution an intimate acquaintance with the higher branches of ophthalmology, and they should not be lightly assumed by one familiar with elementary works only.

Note.—Unconnected with more serious disease, contraction of the pupil is seldom seen.

MYDRIASIS.

Dilatation of the Pupil.

Causes.—It accompanies lesions of the brain or spine; is often a guide to unravel hidden and remote diseases.

Like myosis, a thorough familiarity with eye troubles is

essential to comprehend its monitions. Unlike myosis, however, it is associated with minor complaints at times, and demands simple remedies, or none at all especially directed to it.

Note.—Dilatation of the pupil is generally associated with some serious organic defect.

Caution.—Watchful care should be exercised until a conclusion as to its danger can be formed.

IRIDO-CHOROIDITIS.

Inflammation of the Iris and Choroid.

Cause.—Extension of inflammation from the iris, and *vice versa.*

Symptoms.—Those of iritis mainly, but exaggerated in degree. The vitreous becomes clouded, and there is contraction of the field of vision not explained by iritis.

Note.—Is most frequent result of previous oft-recurring iritis, where the chambers of the eye have become separated (exclusion or occlusion of the pupil,) or the iris is dragged on by synechiæ. Eye often lost by the disease, and sympathetic ophthalmia may result and the companion eye be endangered or lost.

Local Treatment.—Occurring with iritis requires same treatment as that disease. Iridectomy most valuable remedy for severe cases. After remedies have failed, corelysis may be of service, but is generally dangerous.

General Treatment will be found under the head of Irido-Cyclitis.

Internal Remedies.

Aconitum napellus.—In the first stage of the disease, when there is heat and dryness of the eyes, aconite will be found very useful. It is particularly valuable after surgical operations upon the iris, when there is restlessness with constant turnings of the patient; seeming tendency to inflammation of the iris. All the symptoms of the patient are accompanied by much general febrile excitement, denoted by quick pulse, dry, hot skin, thirst, etc. There is also a direct indication for its use when there is marked ciliary congestion, with contracted pupils, and severe throbbing pains. Aconite will also be found especially useful for persons of full habit and sanguine temperament, and where the disease arises from a cold. Pressure and burning in the eye and over the brow, with aversion to light, accompanied by anxiety and restlessness, and a fear of death, are also excellent indications for its use.

Arsenicum album is called for by burning pains. The parts burn like fire. Great anguish and restlessness are present; the patient has intense thirst, drinking little and often. All the pains are worse at night and after midnight; better from warm applications. The pains are aggravated by light and by moving the eyes. There is photophobia, lachrymation, and great prostration of mind and body.

Arnica is called for in traumatic iritis where there is hæmorrhage and ecchymosis from blows and wounds of any description.

Asafœtida for severe boring pains above the eyebrows. The pains are also throbbing, beating, boring, or burning in character in the eye, over or around it. Highly useful in

syphilitic iritis, and after the abuse of mercury. The pains are usually from within outward, and are relieved by rest and pressure.

It is also particularly adapted to nervous, hysterical persons with hypersensitiveness of the whole system.

Atropine.—The internal administration of atropine has been found of less value than is commonly believed. For ciliary neuralgia and all forms of neuralgia of the eye, it may at times be useful. Internal congestions of the eye, in the serous form of iritis, with increased tension of the globe, will sometimes yield to it.

Aurum metallicum has been successfully used in syphilitic iritis, and after the abuse of mercury and potash. The pains indicating its use are dull or burning in character, compelling one to close the lids occasionally. They are worse in the morning, and ameliorated by the application of cold water. It will also be found a valuable remedy in cases of syphilitic iritis where there is great depression of spirits and a strong tendency to suicide, with tearing, pressing pains, seemingly deep in the bones surrounding the eye, and aggravated by touching.

Belladonna.—In the early stages of iritis, belladonna will sometimes be useful. It is particularly suited to plethoric persons, and those of a stout, full habit.

Indications for its use are as follows: Sharp pains in the orbits, extending to the brain; the pains appear suddenly, and cease as suddenly; there is a dimness of the vision; the eyes are red with much congestion; bright redness of the vessels.

Throbbing pain in the head and eye, with flushed face.

Things looking red, sparks of fire passing before the eyes, are symptoms also relieved by this remedy.

Bryonia alba.—In iritis due to rheumatism, and in the serous forms generally, bryonia is a useful remedy. The symptoms controlled by it are a sensation of pressure from within outward in the globe of the eye. Sensation of soreness and aching in the ball and around it. Sharp, shooting pains in the eyes, extending into the head and down into the face; or pain as if the eye were being forced out of the socket. All the pains are aggravated by moving the eyes in their sockets.

The symptoms are aggravated by warmth, and are generally worse at night. Patient is exceedingly irritable at night, not so much so during the day. The head aches as if it would split open.

Cedron.—In periodical supraorbital neuralgia, cedron is indicated. The pains are sharp and shooting, starting over the eye and extending along the branches of the supraorbital nerve.

Chamomilla relieves severe ciliary neuralgia in scrofulous children. The child is fretful and wants to be carried all the time.

China.—In this trouble, dependent upon or continued by loss of vital fluids or malaria, china will afford much benefit. The pains are variable, but show a marked periodicity.

Cimicifuga is indicated under these conditions: Rheumatic iritis, with intraocular tension and much pain; intense and persistent pains in the eyeballs of a dull, aching, sore nature; pain in the centre of the eyeballs. Pains in the head are from within outward.

Cinnabaris has been used very successfully in condylomatous excrescences on the iris, edge of the pupil, or edge of the lids. Particularly valuable in syphilitic iritis.

Colchicum is well adapted to rheumatic cases with great soreness of the eyeballs. Violent, sharp, tearing pains in the eye, and around the orbit.

Colocynthis.—Cutting pains around the eye have been controlled by colocynthis. Pains relieved by it are quieted by pressure.

Conium is well suited to the forms aggravated by the debility of old people. Burning heat in the eye is well met by it also.

Euphrasia has been used in rheumatic iritis, with constant aching, and occasional shooting pain in the eye. The lachrymation is profuse, the tears acrid and excoriating. When the iris has become bound down by adhesions, and there is ciliary injection, photophobia, cloudy aqueous humor, and discolored iris, this remedy also acts well in relieving, as far as possible, these symptoms.

Gelsemium is said to act well in serous iritis, and diseases of the uveal tract. I have seldom made use of it in this class of troubles, because I have found that rhus toxicodendron has fulfiled all required of it in this direction.

Hamamelis is a valuable local application in traumatic iritis, and may be used internally at the same time. Hæmorrhage into the anterior chamber may be hastened in its absorption by its use, also.

Hepar sulphuris is one of our most valuable remedies in this trouble. In all cases where suppuration has taken place, or is inevitable, as in kerato-iritis, or suppurative iritis,

its administration is called for. The pains are throbbing, pressing, or aching in character, aggravated by cold and relieved by warmth. Much photophobia, with swollen and sensitive lids. Boring pain in the orbit. Absorbs pus in the anterior chamber.

Adapted to scrofulous persons with enlarged glands; every cut or wound suppurating; also to systems after the abuse of mercury.

Kali iodatum is a valuable remedy in choroiditis, or in acute or chronic irido-choroiditis. It also follows well in syphilitic iritis after the patient has been drugged with mercury, or when secondary symptoms accompany the eye inflammation.

Lachesis is indicated when there is much pain in the eye with sharp pains in the upper teeth, and complaints of suffocative feelings. Stitches as from knives in the eye, the sensation coming from the head. The eye complaints are worse after sleeping. Pains rapidly change from the eye to other parts of the body and back again.

Mercurius.—The preparations of mercury have long and successfully been used in the treatment of iritis. They are valuable in all forms of this disease, but especially in the syphilitic. The symptoms comprise a great variety, and the choice of a particular form will depend upon the general characteristics.

Mercurius corrosivus.—In syphilitic iritis, perhaps mercurius corrosivus, and the iodides, are often the most effectual.

Mercurius solubilis is next in importance.

Mercurius dulcis is recommended where the iritis is associated with corneal ulcerations, or found in scrofulous subjects.

The pains are usually severe, and may be either cutting, tearing, biting or boring, and are worse at night and in damp weather. There is also heat and soreness around the eye, and soreness of the same side of the head.

The discharges from the eye are acrid and make the lids and cheek sore. There is much sensitiveness to heat or cold, and the symptoms are made worse by looking into the fire, or from the heat of a stove.

After exudations have taken place from the iris, which appears discolored, or the area of the pupil is covered by a film with tendency to posterior synechiæ, no remedy is better to promote absorption. Hypopion or condylomata yield to its influence.

While the eye symptoms may call for this remedy, we oftener find general characteristic symptoms in connection with them. These are such as diseases of the glands, acute or chronic; cold, clammy sweat on the thighs and legs at night; salivary glands greatly swollen, with excessive secretion of saliva and fetid breath; greyish ulcers on the inner surface of the lips, cheeks, gums, tongue, and soft palate; eruptions on the skin; nightly pains in various parts of the body. Aggravations are from warmth, at night, from rest, and in damp weather.

Nitric acid is specially useful in treating syphilitic or gonorrhœal iritis. It also follows well after the abuse of mercury.

While not strictly applicable to many eye diseases, it is adapted to the treatment of affections of the iris arising from suppressed syphilis, and to secondary affections of syphilis in broken and cachectic constitutions.

Nux vomica is an auxiliary remedy, especially adapted to

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people of a malicious, irritable temperament, and to those who make great mental exertions.

Pulsatilla relieves iritis in characteristic subjects. After suppressed gonorrhœa, pulsatilla will often restore the discharge.

The symptoms are all worse toward evening; relieved in the open air, worse on returning to a warm, close room. Better from cold things; worse from warm. The form of symptoms is very changeable; worse one moment, better the next, or at longer intervals. Sluggish circulation manifested by constant chilliness, coldness and paleness of the skin; disorders of digestion and menstruation; mild, tearful disposition, etc.

Rhus toxicodendron is a remedy especially valuable in suppurative inflammation of the iris, the latter involving, or showing a strong disposition to extend backward and involve, the rest of the uveal tract.

Iritis occurring in rheumatic subjects, or arising from exposure to cold, is well met by rhus. The pains are worse at night, and relieved by warm applications; also worse before a storm and in damp weather.

Vesicular eruptions on any part of the body. Photophobia and lachrymation well-marked. Rheumatic pains that affect any part of the body, aggravated by rest, and relieved by motion.

Silica promotes a tendency to absorption, and will be found to exercise control wherever this point is desirable.

Spigelia is useful where, in cases of rheumatic iritis, the pains are sharp and shooting, or severe, pressing, and jerking, and radiate from points around or in the eye. Intolerable

pain in the superciliary ridge; pains sharp and sticking, as from a poniard; aggravation about 2 A. M. The pain is much worse from moving the eye in any direction.

Sulphur.—Iritis in scrofulous subjects will often be benefited from the use of Sulphur. It is useful in chronic cases, and when the pains are sharp and sticking, like pins sticking in the eyes. Useful after suppressed eruptions.

In the choice of this remedy we must often depend upon its general characteristic symptoms. It is adapted to lymphatic temperaments, to persons disposed to hæmorrhoids, with constipation or morning diarrhœa, to scrofulous diseases which seem to get almost well when they occur again and again.

Thuja is indicated in syphilitic iritis with condylomatous excrescences upon the iris. The pains are ameliorated by warmth.

THE CONJUNCTIVA.

CONJUNCTIVITIS.

Inflammation of the Conjunctiva.

Note.—The classification of conjunctivitis is arbitrary; one form may run into another. For convenience it is divided into

a. Catarrhal;
b. Purulent;
c. Granular;
e. Diphtheritic;
d. Phlyctenular.

Pterygium may also be considered under this heading.

In general, it may be said that hyperæmia precedes the catarrhal form, and the catarrhal the purulent: often quickly supervening on each other.

All may be infectious and contagious: the discharge from one form may produce its own kind, or that of another. May be endemic or epidemic.

CONJUNCTIVITIS CATARRHALIS.

Catarrhal Inflammation of the Conjunctiva.

Synonym: Catarrhal Ophthalmia.

Chief Causes.—Exposure; the exanthematous diseases; injuries; bad hygiene; consequent on other inflammations;

ametropia; foreign bodies; contagion; over-use of the eyes. Preceded by hyperæmia.

Symptoms.—There is a sensation of sand in the eye; smarting, itching and lachrymation; increased vascularity; chemosis; sticking together of the lids, especially after sleeping; mucous or muco-purulent discharge, the latter collecting in, and known by, whitish flakes containing albumen, mucous and epithelial cells. Lids grow red, swell and become stiff. Often numerous small hæmorrhagic spots.

Note.—Under proper care it is seldom that the cornea becomes involved in this variety. Be careful in the exanthematous diseases that the conjunctiva does not become seriously implicated. Sometimes it does unless watched, and hurrying into the purulent form, involves the cornea, and damages or ruins sight. This result is not infrequent in variola.

Caution.—Use extreme care as to cleanliness, isolation of all towels, basins, etc.

Local Treatment.—If due to ametropia, correct the refraction by suitable glasses. If no cause is apparent, examine carefully for any local irritation, as from foreign body, inturning lashes, etc.

But when the disease is established, insist on extreme cleanliness always. Cold applications in primary stages, with protection. Mild, astringent lotions when necessary. Corneal and iritic complications may require atropine.

General Treatment must not be neglected if the patient is at all run down in general health. The disease is usually local, however.

CONJUNCTIVITIS PURULENTA.

Purulent Inflammation of the Conjunctiva.

Synonyms: Blenorrhœa; Military or Egyptian Ophthalmia.
Varieties: Gonorrhœal Conjunctivitis; Ophthalmia Neonatorum.

Chief Causes.—Same as catarrhal variety.

Symptoms.—Same as catarrhal, but greatly intensified. Discharge purulent, thick and highly contagious. Often great chemosis.

Note.—Read carefully the note under Conjunctivitis.

There is great danger of the cornea becoming involved, causing ulceration, sloughing, and not infrequently loss of the eye. Study the corneal dangers and their treatment as given under the head of Keratitis. Gonorrhœal conjunctivitis is usually very severe and shows great tendency to constitutional symptoms, which often are extremely severe. Ophthalmia neonatorum may be very mild or very severe.

Local Treatment.—No disease requires greater judgment or more careful diagnosis than purulent conjunctivitis. Extreme cleanliness is always necessary. This is best accomplished by removing the discharge with small pledgets of cotton-cloth. Do not allow the palpebral syringe to be used except by the experienced.

When the discharge has not set in, the conjunctiva being tense, hot and dry, use soothing applications, such as atropine, and feel the way carefully. When discharge is fully established, an astringent lotion every few hours; or it may be necessary to paint the inner surface of lids once or twice daily with a strong solution of silver nitrate (which see) or other similar remedy. If the cornea becomes cloudy, atro-

pine must be used. Canthoplasty must be performed if the lids press too closely on the globe.

Seal up the non-affected eye, if necessary; in any event use the greatest caution that the disease be not communicated to it.

Cool, or even iced, applications may be demanded in severe cases.

In ophthalmia neonatorum, in addition to extreme cleanliness, one drop of a one-grain solution of silver nitrate dropped between the lids, night and morning, and a powder of argentum nitricum 30x, every three hours internally, will cure all cases, if taken in time. A weak solution of atropia sulphate may be used if the cornea becomes cloudy.

There is no need of bad results, except in the rarest cases.

General Treatment.—This disease often greatly drains the system; gonorrhœal variety particularly so. Keep the strength up. Disinfect the room, and everything in use; Platt's chlorides are excellent for this purpose.

CONJUNCTIVITIS GRANULOSA.

Granular Inflammation of the Conjunctiva.

Synonyms: Trachoma; Granular Lids; Ophthalmia Granulosa.

Chief Causes.—Catarrhal and purulent conjunctivitis. Filth, impure air, and defective hygiene generally. Contagion.

Symptoms.—Locally this trouble is characterized by hyperæmia, swelling, and a peculiar roughness of the palpebral conjunctiva. These changes may be noticed as diffuse, vascular excrescences in the conjunctival tissue, resembling roundish granules; or as hypertrophied papillæ. The for-

mer is called "granular trachoma"; the latter, "papillary trachoma"; occurring together, as they most often do, "mixed trachoma." There may be a discharge, at first thin and watery, gradually becoming thicker and of a muco-purulent character; or the disease may steal on so insidiously as to be established before really suspected. In the latter case patient generally previously complains of the lids sticking together in the morning, with some roughness. When either acute, or established, the eyes are very irritable, accompanied by a sensation of sand, especially under the upper lid, and they become red and watery on attempting to use them. After a short time the lid becomes puffy, more or less flabby, and limp.

All symptoms vary greatly in severity according to the nature of the attack.

Note.—Granular conjunctivitis is contagious; often highly so.

Caution—Isolate all towels, utensils, etc., to prevent the danger of contagion.

The disease shows great tendency to relapses, acute exacerbations being common. It is often complicated with other diseases. The greatest danger lies in the injury to the cornea. The rough, sand-paper-like lids irritate the cornea, promoting vascularity and pannus, or it may ulcerate. The conjunctiva may become chronically dry (xerophthalmia), lids be drawn inwards at the margin (entropion), lashes turn in (trichiasis), or lid or lids become firmly adherent to the globe (symblepharon). Either of the latter is more likely to be the result of injudicious treatment, however.

Nearly always, general complaints accompany or have

originated this trouble. It is particularly associated with the badly nourished; with high free livers, who crowd their stomachs, drink hot, stimulating drinks, remain in smoky rooms, or heated, close atmosphere, and take insufficient exercise.

The mind is apt to partake of the bodily weakness in old advanced cases, and the patient become addicted to lazy, indolent habits.

Local Treatment is all-important. Injudiciously done, it does harm rather than good. In severe cases astringents are necessary, caustics seldom are. Primary cases and exacerbations are better met by remedies. Ice-bags in severe, acute attacks, or exacerbations of old chronic ones are highly recommended. Crayon of copper sulphate is to be used only by the most experienced, if at all, and is not recommended. Tannic acid, six to ten grains, and glycerine, one ounce, is a prescription that in old, indolent cases, has been also highly recommended. Silver nitrate, which see, properly used is the most reliable irritant, however, and will generally prove all-sufficient.

General Treatment.—Removal of all exciting causes; cold water, general bathing with friction; good food, air, and exercise, and healthy, useful employment are all essential.

CONJUNCTIVITIS DIPHTHERITICA.

Diphtheritic Inflammation of the Conjunctiva.

Chief Causes.—Occurs in course of diphtheria, and results from same causes as do the other forms.

Symptoms.—A yellow, tough and firm product of inflam-

mation collects in the tissue of the conjunctiva and on its surface, from which it may often be torn off like a thick lining of the lids. There are usually the symptoms of intense inflammation in the first stages, with great tenderness to the touch, the lids being hardened by fibrinous infiltration. Symptoms vary much in nature according to the severity of the case, but generally are severe at first; the lids grow soft as the disease advances, and pus supervenes.

Note.—This disease is extremely rare in the United States. Lids are often rigid and seemingly fibrinous in the other varieties, and errors in diagnosis made. Found mainly on the European Continent. Cornea apt to suffer severely, and the lids to become cicatrized. Constitutional symptoms usually marked.

Treatment.—The treatment is not very satisfactory. Locally ice compresses in first stages, and the treatment of purulent conjunctivitis when pus sets in. Support the strength.

CONJUNCTIVITIS PHLYCTENULARIS.

Phlyctenular Inflammation of the Conjunctiva.

Synonyms: Herpes Ophthalmicus; Pustular Conjunctivitis.

Characterized by small, yellowish-red, nodules on the conjunctiva; often associated with, and in many respects similar to, pustular keratitis (which see).

Treatment.—Same as indicated under Pustular Keratitis.

PTERYGIUM.

Bat's Wing.

Chief Causes.—Exposure to hot winds, to the winds of the sea, of the prairies, etc. Chronic inflammations.

Symptoms.—A triangular vascular ridge of hypertrophied conjunctival and subconjunctival tissue, usually on the nasal side of the eye, base towards the canthus, apex adjacent to, or more or less on, the cornea.

Pinguecula is an epithelial tumor, or due to micro-organism parasites; a deposit of fat ensuing. Owing to some similarity, it is often diagnosed erroneously as pterygium.

Local Treatment.—If remedies are unavailing and it persistently encroaches on the cornea, excision, ligation or transplantation.

A full description of these operations, with the results attained, may be found in the larger works.

Internal Remedies.

Aconitum napellus is valuable in all forms of conjunctivitis in the early stages. It is particularly valuable in those cases which begin with much local fever and heat, where it is necessary to quickly break up this condition. In the first stage of catarrhal inflammation, when severe, or when there is a sensation of local heat, it is always indicated.

In acute exacerbation of chronic granulated lids it is also indicated.

Is of little value, however, when once the second stages

have set in, or when the boundary is passed in the catarrhal form, and the purulent form has set in.

To subdue local inflammation after a hot cinder, or other foreign body, has been removed, it will be of value in conjunction with local remedies. The latter, however, will generally render it unnecessary.

Apis mellifica is a valuable remedy when the lids are swollen and stinging, with a general œdematous condition. The parts have that peculiar appearance as if a bee had stung them.

Its general symptoms may often suggest the remedy also, such as drowsiness, absence of thirst, etc.

Chemosis yields to it.

Argentum nitricum has long enjoyed the reputation of locally curing the purulent forms, no matter what their cause.

Naturally it would seem to be an excellent remedy internally, and such it proves to be. Combined with *judicious* local treatment, it will exceedingly rarely be necessary for sight to be lost, even in part.

It is useful in the first stages only of the granular forms.

Pterygium has been reported cured by the administration of this drug.

Arsenicum is useful in the first stages of the catarrhal and granular forms, and the various stages of the pustular form, when there are burning pains, especially at night.

Periodicity of attack, and alternate shifting from one eye to the other also indicate its use.

Belladonna is useful in the first stages of conjunctivitis,

that is in the precedent hyperæmia and catarrhal form, but of no use when the purulent form has set in.

In the early stages it will meet such symptoms as smarting and burning pains with dryness and heat, and marked photophobia. Often the face is red and swollen, with headache.

Acute attacks in chronic cases may demand this remedy.

Calcarea carbonica has been used for the relief of pterygium.

Euphrasia finds in the conjunctival troubles an appropriate sphere of action.

When called for, there is profuse, acrid burning lachrymation, thick, profuse and yellow discharge, which runs down on and excoriates the cheek. Owing to the presence of this discharge on the cornea vision is more or less impeded, but relieved by the act of winking, which washes down the obstructing secretion.

It must not be depended on in the purulent form, however, as it will seldom be of sufficient power to bring about a healthy resolution. More especially is this the case if the cornea is threatening suppuration.

Graphites is not a very useful remedy in any of the conjunctival forms but the pustular.

When the external canthi crack and bleed easily, and eczematous eruptions appear behind the ears, the discharges are thin and excoriating, the nose participating, a general scabby condition, with dry scurfs, with a decided tendency to recur, its use will be strongly demanded.

Hepar sulphuris must always be thought of when, in the purulent form, the cornea has become implicated, and there

is a strong suppurative tendency or suppuration has actually set in.

It may be useful where there is a muco-purulent discharge.

Mercurius is a valuable remedy.

Special indications are found in the profuse, burning, muco-purulent discharges. They are thin, acrid and excoriating.

Syphilitic subjects particularly require its use and the well-known train of symptoms classed under this name will guide in its selection.

The remedy has doubtless been much over-rated and abused in this class of troubles.

Nitric acid may be used in gonorrhœal ophthalmia, in conjunction with local treatment.

Pulsatilla nigricans is a valuable remedy in almost all forms of conjunctivitis.

In the catarrhal when occurring in the characteristic subject, with a bland thick discharge. Especially is it indicated in this form resulting from an attack of the measles, or from taking cold.

In the purulent form, and especially in that kind found in the newly-born, it may be used. It should not usually be alone relied on, however.

In the phlyctenular form it is valuable.

In the trachomatous form, feebly so. When the lids are implicated it is often very useful.

The general characteristics, "worse in a warm room, better in the open air," often serve as a marked guide for its selection.

Rhus toxicodendron is valuable when the inflammation is

caused by exposure to the wet, with an œdematous swelling of the lids.

Intense photophobia and profuse lachrymation in the phlyctenular form call for this drug when conium is not indicated for the special reasons laid down under its head in keratitis.

Sulphur is the remedy for certain forms of, and conditions associated with, phlyctenular conjunctivitis.

Agglutination in the morning, marked photophobia and profuse lachrymation, burning and biting in the eye, with sharp lancinating pains, are indications for its use.

Chronic, scabby cases, occurring in scrofulous children, will be much benefited by its administration intercurrently with other remedies.

Zincum metallicum is said to have cured pterygium.

GLAUCOMA.

GLAUCOMA.

Increased Eye-Tension.

Synonym: Arthritic Ophthalmia.
Divisions: Acute and Chronic.

Causes.—Somewhat obscure: often caused by mental emotions, as prolonged grief, etc. May be hereditary. Neuralgia of fifth nerve. Irritations of the ciliary nerves. Retinal hæmorrhage is an infrequent cause.

Symptoms.—The symptoms of acute glaucoma are those of intense acute inflammation. It is generally preceded by what are known as prodromal symptoms as below, but greatly intensified; it then bursts forth with addition of severe headaches and terrible ciliary neuralgia; cloudiness of the aqueous and vitreous humors; dilatation and sluggishness of the pupil, which perhaps is filled with a greenish reflex; photophobia, lachrymation, and conjunctival congestion; often fever and vomiting; the cornea is clouded, the iris jammed against it, the anterior chamber being obliterated; tension increased until the eye may become as hard as stone: marked changes in the fundus, but generally not to be seen owing to condition of the refractive media. These changes are pulsation of the arteries; swollen, beaded appearance of the veins; slight retinal hæmorrhage; peculiar cupping of optic disc.

Chronic glaucoma (synonym, simple glaucoma), on the other hand, is an insidious disease, stealing on unawares often. The prodromal symptoms are mild usually, and often needlessly overlooked, and the disease steals on, to become hopelessly incurable, or burst into an acute form. Its symptoms are increase of tension; mild hyperæmia and inflammation; the peculiar excavation of the optic nerve; and decrease of vision, with narrowing of visual field. Both forms, particularly the acute, are often mistaken for other diseases, as bilious fever, brain troubles, etc.

Confirmed glaucoma (synonym, *glaucoma absolutum*), renders the globe hard as stone, pupil dilated, lens opaque, cornea dull and insensitive, anterior chamber shallow.

Prodromal symptoms are rapid increase of any existing presbyopia; colored rings around a light; intermittent obscurations of sight; ciliary neuralgia; slight variable increase of intra-ocular tension; narrowing of visual field and dimness of vision.

Note.—Glaucoma is one of the most dangerous and least generally understood diseases of the eye. Badly or neglectfully treated, it results in certain blindness. Hypermetropic eyes most liable to it, generally attacking one and extending to the other. Intervals, or periods of remission may be days or years. When rapid, destroying sight in a few hours, or even in less time, it is called *glaucoma fulminans* (lightning glaucoma); when following ordinary inflammation or injuries of the eye, secondary glaucoma. Both eyes are usually affected, often first one and then the other. Females at and beyond the change of life are notably susceptible. The cupping of the optic disc is peculiar and not easily confounded

with either the physiological or atrophic cupping.* Rapidly advancing presbyopia is suspicious. Treatment requires good judgment and experience. Remedies are often of great aid associated with proper local treatment, but should not be exclusively relied on, except at the beginning of very mild attacks or during intermission of violent symptoms.

Local Treatment.—Paracentesis or iridectomy, according to severity and nature of attack. Until recently, great stress has been laid on the necessity for a broad iridectomy quite up to the ciliary margin, and explicit directions given for performing the same. Experienced judgment is the best guide as to the kind of iridectomy needed. If performed early, good results almost certain; tardy hesitating treatment generally punished with loss of vision. In early stages paracentesis properly performed, with proper remedies, is frequently all-sufficient. With caution, atropine, which see. Sclerotomy is sometimes preferable to iridectomy. Eserine will often be advantageous rather than atropine.

General Treatment all-important. Build up the system, and make the surroundings cheerful. Complete rest of the eyes when the attacks follow each other quickly, and but moderate use of them at any time.

Internal Remedies.

Belladonna has been found of use in relieving the flushed face, and throbbing headache, with sharp pains. The pupils

*This and other forms of cupping, are fully explained with illustrations in the author's work on "The Ophthalmoscope; Its Theory and Practical Uses."

are dilated, conjunctiva congested, with a general dry feeling, and much photophobia.

Bryonia alba may be given when the eyes feel sore to the touch, and are generally worse on motion. Sharp, shooting pains through the globe.

Cimicifuga is valuable for the wandering pains which often change into other portions of the body.

Colocynthis has been used where the pains are better on pressure, but usually of a sharp, stitching nature.

Gelsemium is one of the most valuable of the remedies in this trouble, being often palliative of the severe pains, and seemingly exercising a curative influence on the neurotic character of the disease.

Phosphorus is useful in clearing up the vision after an iridectomy has been performed.

Spigelia has been found more valuable than any other one internal remedy for the alleviation of the sharp, shooting, and sticking pains which accompany this disease. These pains are worse on motion and at night.

In no other disease will a careful study of the Repertory be found more valuable. Hints from any one or more prominent symptoms may lead in this manner to a remedy which would be found in no other way.

LOCAL APPLICATIONS.

MYDRIATICS.

Atropine, the alkaloid of *atropa belladonna*, is the principal mydriatic used in ophthalmic practice. It is insoluble in water, and if ordered must be cut by an acid. Hence we use atropia sulphate, or atropine treated by sulphuric acid, which is freely soluble in water. It is important that it be well prepared or there will be attributed to the atropia unfavorable results due to other causes.

Pure, neutral atropia sulphate has the following advantages, when rightly used:

1. It diminishes the intra-ocular tension.
2. It draws back the iris, and
   - *a.* Prevents adhesions to the anterior capsule of the lens;
   - *b.* Prevents adhesions to the posterior layer of the cornea;
   - *c.* Tears away adhesions when formed;
   - *d.* Prevents its prolapse;
   - *e.* Not infrequently restores it when prolapsed;
   - *f.* Compels it to rest;
   - *g.* Diminishes its congestion.
3. It diminishes the congestion of the ciliary body.

4. It compels the ciliary muscle to rest.

5. It lessens ciliary neuralgia.

6. It acts as a local anæsthetic during its passage through the cornea, allaying irritation.

It also has disadvantages, as follows:

1. Severe irritation of the conjunctiva with an eczematous condition of the lids, has been caused by its use.

2. Its use may be contra-indicated when the posterior portion of the uveal tract is affected or likely to be.

3. By its use acute glaucoma has been hastened in eyes already attacked, by reason of which, the advantage above numbered 1 has been doubted in some cases.

4. Its use may cause detachment of the retina.

5. Paralysis of the fibers of the iris may be caused by prolonged use of a strong solution.

6. Poisoning by the solution running from the conjunctival sac into the throat through the lachrymal canaliculi may occur; or it may even be absorbed to this extent.

7. Some persons show a constitutional antipathy to its use in other ways than mentioned.

Its strength may be varied according to the necessities of the case. Being an active poison great care is essential. One-half a grain of atropia sulphate to an ounce of distilled water is sufficient to dilate the pupil for examination of a healthy eye, but when inflammation is present, solutions of two to eight grains to the ounce are required—one drop from a drop-tube, to be placed in the eye, the lower lid being slightly everted.

The Antidote to atropine is preferably a strong decoction of coffee, which in cases requiring a more powerful antidote

is best alternated with hot vinegar. When an immediate antidote is required, however, an hypodermic injection of morphia is essential, and excels all others.

Atropine Solutions.—

1. Strong Atropine Drops:

   Sulphate of Atropia, gr. iv,
   Distilled water, ℥j.

Used in all cases where the rapid and full mydriatic action of the drug is required. The ciliary muscle and iris do not thoroughly recover from the effect of complete atropization for about ten days.

2. Weak Atropine Drops:

   Sulphate of Atropia, gr. ss. to j,
   Distilled water, ℥j.

Used when for optical purposes it is desired to keep the pupil partially dilated for a long time, as in immature nuclear cataract. A single drop about three times a week will generally suffice.

Solutions of atropia sulphate will keep for an indefinite time; the floculent sediment which often forms does not impair their efficiency.

Homatropine is a substitute for atropine, and is sometimes valuable in that its mydriatic effects pass of quickly in comparison. A solution of two grains to the ounce of distilled water may be used with value in examinations, as the pupil will usually return to its normal size in about twelve hours.

Hyoscyamine, the alkaloid of *hyoscyamus niger*, is a mydriatic sometimes used. It can often be borne when atropine cannot. Under its use the pupil will dilate more rapidly and remain longer dilated than under atropine, and of not less maximum degree; but it is much more expensive, more difficult to procure and does not keep as well.

Duboisine, the active principle of *duboisia myoporoides*, is much similar to atropine in its general action, though far more powerful. It dilates the pupil and paralyzes the ciliary muscle more rapidly and efficiently than atropine; has no unpleasant action on the conjunctiva, but frequently produces the most distressing vertigo, delirium, and other alarming symptoms, requiring great caution in its use. Its high price renders it only a substitute where atropine distresses.

Duboisine Solutions.—

1. Strong Duboisine Drops:

   Sulphate of Duboisia, gr. iv,
   Distilled water, ʒj.

To be used with great caution, as well-marked toxic symptoms are often caused even by two or three drops to the eye.

A weaker solution (gr. j to ʒj) is safer.

Daturine, the alkaloid of *datura stramonium*, is also sometimes used as a mydriatic. It may be borne when atropine can not, and thus be sometimes useful.

Daturine Solution.—

1. Strong Daturine Drops:

Sulphate of Daturia, gr. iv,
Distilled water, ℥j.

MYOSITICS.

Calabar Bean, an extract of the product of *physostigma venenosum*, is the myositic generally used in ophthalmic practice. Its active alkaloid, eserine (or physostigmine,) is also much used. A drop of a solution of four grains of the alcoholic extract of the bean to an ounce of distilled water, or a little of the alcoholic extract, is put into the eye. Its effect is rapid, but soon passes off, or is easily overcome by atropine.

Eserine (the alkaloid of calabar bean).—

Sulphate of Eseria, gr. ij,
Distilled water, ℥j.

Used in mydriasis and paralysis of the accommodation whether caused by atropine or by nerve lesions, in some forms of corneal ulcer, and in acute glaucoma. Its effect only lasts an hour or two at first; after several weeks' use it remains considerably longer, but never nearly so long as that of atropine.

Caution.—Beware of spurious or imitation alkaloids of all these substances, many of which are in the market. They

sometimes cause much trouble, and the blame put upon the remedy, when in reality the appropriate remedy has not been used at all.

All the mydriatics and myositics may be obtained in the form of small gelatine disks of known strength, which are sometimes more convenient than the solutions.

MISCELLANEOUS.

Silver Nitrate (Synonym: Nitrate of Silver,) is an invaluable local as well as internal remedy in eye complaints. It is readily neutralized in all strengths by a saturated solution of sodium chloride (common table-salt). The chlorine of the sodium unites with the silver forming silver chloride, which is insoluble, and consequently innocuous, in the tears.

Used as follows:

Ophthalmia Neonatorum.—A strength of one or two grains to the ounce of pure distilled water should be used, a drop into the thoroughly-cleansed eye once or twice a day. Combined with it internally, 6x or 30x trituration preferred, it will prove an almost unfailing remedy.

Granular Conjunctivitis.—When necessary to use it in this disease, preferably paint on the everted lid a solution of five grains to the ounce of distilled water, quickly neutralizing it with sodium chloride, as above. It is to be seldon repeated. It should be borne in mind that it is not thus used for its caustic effect, but as an irritant and stimulant to promote absorption, and used excessively in quantity or frequency, it does harm. Let the improvement go on to completion before

another application is made, previous to which gently remove the eschar.

Purulent Conjunctivitis.—In this disease use a strength of from three to ten grains to the ounce, according to severity of case. Many use a solution of two to six grains to the ounce of distilled water, and put a drop in the eye three or four times a day. Solutions of five grains and upward are preferably painted on the everted upper lid, and neutralized or not, according to experienced judgment. It should never be used until the discharge has set in, or it will be highly injurious. Having used it, wait until the deposit which forms on the conjunctiva has disappeared and the discharge has become re-established before again using it. If this rule be attended to, there will be little danger from its use.

Silver Nitrate Solutions.—

1. Strong Silver Nitrate Drops:
   Nitrate of Silver, gr. x,
   Distilled Water, ʒj.

2. Weak Silver Nitrate Drops:
   Nitrate of Silver, gr. j or ij,
   Distilled Water, ʒj.

Pure silver nitrate is never to be used to the conjunctiva.

All solutions of silver nitrate should be kept either in a deep blue bottle, or in a dark place.

Hot Water.—Of all local applications, there is none more useful than hot water. As hot as it can be borne, it often will relieve the severe pain and reduce the inflammation of iritis; it allays the severest inflammation of, and acts as a

detergent in, conjunctivitis; in keratitis it will sustain the vitality of the corneal tissue, and thoroughly cleanse the eye of discharge.

Combined with it, may be used any of the infusions or lotions desirable.

Experience with it will soon render its use indispensable in the severer form of any of the inflammatory eye diseases.

Copper sulphate, Zinc sulphate and Zinc chloride are also much used in mild forms of conjunctivitis. Properly used, there is often much benefit. Injudiciously used, there is occasionally considerable harm. One or two grains of either of the former, or a half grain to one grain of the latter, to the ounce of distilled water, is of the ordinary strength. Their strength may be increased if necessary.

A crystal of pure copper sulphate, smoothly pointed, is sometimes used for touching granular lids of long standing. It is not recommended, however. I have never seen any need of its use.

Zinc Sulphate Solution.—

Sulphate of Zinc, gr., j or ij,
Water, ℥j.

It is better never to use rose water, as, unless carefully prepared, it is quite irritating to the eye.

Zinc Chloride Solution.—

Chloride of Zinc, gr. ij,
Water, ℥j,
Dilute Hydrochloric Acid, just enough to make a clear solution.

Alum Solution.—

Alum Sul. c. p., gr. iv to gr. x,
Water, ʒj.

Chemically pure sulphate of alum is often difficult to obtain. I never use any other, though common alum is generally used.

The above lotions are in common use in the milder forms of acute and chronic ophthalmia. The chloride occasionally irritates; it is especially used in purulent and severe catarrhal ophthalmia instead of the weak nitrate of silver lotions. The stronger alum lotion is often used in the same cases. The alum and sulphate of zinc lotions may be used frequently on the conjunctiva; the chloride, even in severe cases, not more than six times a day.

Soda Carbonate Solution.—

Bicarbonate of Soda, gr. x,
Water, ʒj.

Used for softening the crusts in severe ophthalmia tarsi. Warm milk and water is usually just as good, however. A small quantity of the lotion, diluted with its own bulk of hot water, to be used for soaking the edges of the eyelids for ten or fifteen minutes night and morning.

Tar and Soda Solution.—

Carbonate of Soda, ʒiss,
Liquor Carbonis Detergens, ʒj to ʒss,
Water to Oj.

Used in the same cases as the carbonate of soda, which see.

Borax Solution.—

Biborate of Soda, gr. x,
Water, ℥j.

Used in the same cases as the carbonate of soda, which see.

Lead.—Lead lotions are not recommended to be used except by the experienced.

1. Lead Lotion:

Liquor Plumbi Subacetatis (B. P.), ʒj,
Distilled Water, Oj.—(1 in 160.)

Used in chronic conjunctivitis *when the cornea is sound,* and in inflammations of the eyelids and lachrymal sac.

2. Spirit Lotion:

Rectified (or Methylated Spirit), ℥j,
Water, ℥iv.

Used as an evaporating lotion to allay or prevent inflammation of the wound after operations on the eyelids.

3. Lead and Spirit Lotion:

Spirit Lotion, Oj,
Liquor Plumbi Subacetatis (B. P.) ʒij.

Used in the same cases when there is no fear that the cornea is abraded or ulcerated.

Mercury.—

Calomel powder, q. s.

Used for dusting on the cornea in some cases of ulceration. Flicked into the eye from a dry camel-hair brush filled with the powder.

Belladonna Fomentation.—

Extract of Belladonna, ʒj. to ʒij,
Water, Oj.

Warmed in a cup or small basin and sometimes used as a hot fomentation in suppurating and serpiginous ulcers of cornea.

Cosmoline is valuable in all cases of ciliary blepharitis, preventing the formation of new scales, acting as a demulcent, and perhaps through absorption exercising some medicinal influence over the progress of the disease. It is to be preferred pure and uncombined with carbolic acid or anything else. Vaseline, cloverine, etc., are names of substitutes said to be similar in preparation.

Bandages, Etc.—

Bandages for the eyes should be of thin flannel. A linen or knitted cotton bandage, about ten inches long, with four tails of tape, or a loop of tape embracing the back of the head (Liebreich's bandage), is very convenient.

But I usually follow the Vienna system of bandaging as better.

The *protective* bandage consists of a roller of thin flannel about one to one and one-quarter inches wide, and four to six feet long.

Placing one end a little in front of the auricle opposite to the eye to be protected, the bandage is brought across the forehead and around the head to the point of beginning, and

thence down over the eye (over which and to fill up even with the brow and face, cotton or lint has been placed upon a piece of cloth about two inches square, oiled to prevent adhesion to the skin of the lid and face) around under the opposite auricle, and back to the beginning, where it is held in place by a safety pin.

The *pressure* bandage is similar, but of finer flannel and longer. It is more carefully adjusted, all wrinkles being smoothed out, so as to firmly bind on the forehead and head.

When so arranged, a firm but gentle pressure can be made and strongly secured.

It requires a little practice to get them properly adjusted, but nothing can exceed their efficiency for the purposes intended.

When absolute exclusion of light is desired, it is best to use a bandage made of a double fold of some thin black material.

Fine old linen is better than lint for placing next the skin in dressing after operations.

Shades may be made of thin cardboard covered with some dark material, or of stout, dark blue paper, like that used for making grocers' sugar-bags. Shades of black plaited straw are also very light and convenient.

Shades, to be effectual, should extend to the temple on each side, so as to exclude all side light.

An excellent one, with a spring extending half way around the head to hold the shade in place, is for sale at the optician's shops.

Protective Glasses: *

Various patterns of glasses are made for the purpose of protecting the eyes from wind, dust, and bright light. The glasses are flat, or hollow like a watch glass, and colored in various shades of blue or smoke tint.

*The subject of Protective Glasses is fully explained, with illustrative cuts, in the author's monograph entitled "Spectacles; And How to Choose Them."

REFRACTION AND ACCOMMODATION.

ELEMENTARY DEFINITIONS.

Refraction.—By *refraction* is understood the faculty the eye possesses of focussing certain rays of light upon the retina; this is due to the shape of the globe and the refracting media, and is independent of the accommodative apparatus.

Accomodation.—By *accommodation* is understood the voluntary action whereby the eye becomes adjusted for vision of points nearer than is possible under refraction alone.

The exact method of accommodation is not fully settled. The most learned theories are those of Dudgeon and Helmholtz.

In viewing any point beyond about eighteen feet, the refraction alone is used, and the accommodation (or the eye sometimes) is said to be *at rest;* points nearer require the aid of accommodation. Any object situated more than eighteen feet distant from the eye is said to be at an infinite distance; nearer, at a finite distance.

Emmètropia (synonym E) is a term for perfect refraction, that state in which parallel rays are brought to a focus upon the retina when the accommodation is at rest.

Ametropia is a term for imperfect refraction, and embraces astigmatism, myopia, hypermetropia, and by some authors' presbyopia, all of which see.

An accurate knowledge of the principles of light, physical and physiological optics, embracing an intimate familiarity with the dioptrics of the eye, its excellencies and defects (requiring a complete knowledge of the higher mathematics), is absolutely essential for a thorough comprehension of this subject. A simple outline only can be presented, such as is necessary for an understanding of the main practical points, as much harm often results from treating these complex subjects without understanding them. Hence complete works must be studied and much practical experience gained before it can be successfully attempted.

ASTHENOPIA ACCOMMODATIVA AT MUSCULARIS.

Accommodative and Muscular Asthenopia.

Synonym: As.

Definition.—Asthenopia is a very common trouble, and is caused, as its name indicates, by a lack of strength.

Causes.—Frequently is due to some error in refraction or accommodation. It is also due to such a multiplicity of other causes however, principal among which are, muscular debility from any cause, as diphtheria, typhoid or other fevers; uterine diseases (kopiopia hysterica); constitutional troubles, etc., etc.; that a thorough knowledge of general medicine and surgery, in its detail, is essential to their finding and removal.

Note.—There is no more pitiable spectacle than to see a blind and ignorant dosing of a patient thus afflicted, or a case treated by a "general expectant" policy, or by local blisters and "eye-washes."

Treatment.—Careful search must be made for the cause, the refraction and accommodation corrected if in error, exciting causes removed, a healthy regimen and hygiene ordered, according to the circumstances of the case.

Dyer's exercise is valuable when the internal recti muscles are affected. General and local faradization and galvanism may be used with success.

The materia medica should be studied and the remedy carefully selected.

Caution—Do not do anything until you know what you are going to do. Ascertain the cause, lay out a definite plan of treatment, and do not wander up and down the whole medical field in the vague hope of doing some good. When once the case has settled into a chronic one, it is often difficult to cure at all. Such cases belong to the highest branches of the ophthalmologists calling, and their treatment should not be undertaken by one unfamiliar with what is known.

ASTIGMATISMUS.

Irregular Sight.

Synonym: A.

Definition.—Astigmatism is that state of refraction, when the eye being at rest, rays of light emanating from a point are not re-united at a point.

Causes.—Asymmetry of refracting surfaces, whence no image is correctly formed on the retina. May be congenital or not, generally is; when not, is due to results of inflammation of cornea, defective union of cornea after cataract operations, etc. Often hereditary.

Symptoms.—Subjective, generally that the eye sees more than one image, and those distorted in shape and position. Objectively, with ophthalmoscope, distortion of the fundus; with oblique illumination, irregular corneal reflections and changes of curvature.

Note.—The principal meridians are those of greatest and least curvature; different focal lengths of principal meridians cause regular astigmatism; differences of refraction in same meridian cause irregular astigmatism, which is incurable by glasses, though improved by stenopaic apparatus occasionally.

Regular Astigmatism is called simple when one principal meridian is emmetropic and the other ametropic, as simple myopic A (synonym Am); simple hypermetropic A (synonym Ah); compound, when both are hypermetropic or myopic, but defect greater in one than the other, as compound myopic A (synonym M+Am); compound hypermetropic A (synonym H+Ah); mixed, when one principal meridian is hypermetropic, the other myopic, as mixed A with predominant myopia (synonym Amh); or mixed A with predominant hypermetropia (synonym Ahm).

Treatment consists in the adaptation of proper cylindrical lenses; must often be combined with spherical, and sometimes with prismatic, lenses.

MYOPIA.

Short Sight.

Synonyms; Hypometropia; Brachymetropia; M.

Definition.—When the accommodation is at rest, and parallel rays of light entering the eye are focussed *in front* of

the retina, the condition is called myopia. Divergent rays are focussed upon the retina.

Causes.—Optic axis too long; too high refractive power. Often hereditary or congenital. Anything that favors congestion of the globe, as straining the eyes at fine work; reading by too dim a light; reading in a recumbent posture; stooping over at the desk, etc.

Note.—In myopia the far point lies nearer the eye than in emmetropia.

A myopic eye is often considered as necessarily of strong sight, and hence not regarded as unsound. This is erroneous. While a stationary myopia of low degree may not necessarily be a serious matter, it must always be regarded as liable at any time to become progressive; a progressive myopia of high or low degree is a serious matter. One of high degree, accompanied by posterior staphyloma, is dangerous to vision in advanced life, always affecting the sight more or less; one of high degree, accompanied by posterior staphyloma (synonyms: myopic arc; myopic crescent) and attendant atrophy of the optic nerve, not infrequently ends in blindness. The latter grades are nearly always attended by asthenopia, much irritation, and amblyopia.

Myopia is often confounded with spasm of the ciliary muscle, and the latter diagnosed as myopia. Spasm of the ciliary muscle is curable by medicines; myopia seldom, if at all. The two may be associated; the spasm may be overlooked and an improvement of the myopia supposed to be accomplished by medicines.

Myopia may be diagnosed by the ophthalmoscope, in

which case the details of the fundus can be seen by direct method a short distance away; carrying the ophthalmoscope to one side, the fundus is seen to move in the opposite direction. On nearer approach a concave glass will be required to get a clear erect image. By the indirect method the details of the fundus seem smaller than in an emmetropic eye.*

The distance of the far point determines the degree of myopia. A patient who does not see clearly beyond 32 inches is said to have M $\frac{1}{32}$; beyond 12 inches, M $\frac{1}{12}$, etc.

A stationary myopia through youth has a compensation in that presbyopia does not supervene until the error due to myopia is overcome by the senile change. Sometimes this never happens, hence spectacles are never required—a seeming miracle to the laity.

Much in the way of medical treatment can now be accomplished by one familiar with what is known, a subject too vast for so elementary a work as this.

Treatment.—The myopia must be neutralized by concave spherical lenses; generally the weakest that can be worn. Other associated troubles must be treated as indicated. But glasses must not be given if the range of accommodation is contracted, or there be an undue acuteness of sight. Neither should they be ordered if the myopia is slight, and the occupation one not requiring them.

* This subject being one of great practical importance, the author of this work has published a monograph entitled, The Ophthalmoscope; Its Theory and Practical Uses, in which full instructions are given.

HYPERMETROPIA.

Over-Sight.

Synonym: H.

Definition. — When the accommodation is at rest, and parallel rays of light entering the eye are focussed *behind* the retina, the condition is called hypermetropia. Convergent rays are focussed upon the retina.

Causes.—Optic axis too short; senile changes in the eye; aphakia, or absence of the lens. Too low refractive power. May be congenital and hereditary.

Note. — In hypermetropia the eye cannot see distant objects without using a certain amount of the accomodation, or what is the same thing, a convex lens; in emmetropia no accommodation is used for distant objects, the refraction alone sufficing. This abnormal use of the accomodation overtasks the eye, causing spasm of the ciliary muscle, strabismus, etc. *Latent* H, or Hl, is that which is habitually concealed, and only revealed by the use of a strong mydriatic; *manifest* H, or Hm, is that which is present without the use of a mydriatic. The latter is represented by the strongest convex lens through which the patient sees distant objects most acutely; the *total* H, by the strongest convex lens through which the patient sees distant objects most acutely after a strong mydriatic has acted; the difference between the two represents the *latent.*

Of late years H has been greatly elucidated, and strabismus, blepharitis, many so-called scrofulous troubles, etc., have been found to originate therein.

H is divided into three kinds: *facultative,* that in which patient sees near and far objects clearly with or without

convex lenses; *relative,* in which patient sees near and far objects clearly, but only by converging visual lines to points nearer than the objects, giving the eyes a periodic squint; *absolute,* in which neither near or far objects can be seen clearly without convex lenses.

In examining patients, it should be borne in mind that the two eyes will often be found to differ greatly, either in grade, or kind of defect. One eye may be M and the other H, or one eye E and the other H or M, forming *anisometropia,* or one highly myopic and the other slightly, *anisometropic myopia;* or similarly hypermetropic, *anisometropic hypermetropia;* or one with Amh and the other M+Am; or Ahm and Amh, etc.*

H may be diagnosed by the ophthalmoscope, with which the details of the fundus may be seen some distance away; carrying the ophthalmoscope to one side the fundus moves in the same direction. On nearer approach a convex glass will be required to get a clear erect image. By indirect method, the details of the fundus look larger than in an emmetropic eye.†

Treatment.—Correct the refraction by suitable convex spherical lenses. Appropriate medical treatment is a valuable auxiliary to the mechanical relief.

* See note at the foot of page 90.

† See note at the foot of page 86.

PRESBYOPIA.

Old Sight.

Synonyms: Far-sight; Pr.

Definition.—Presbyopia is the term applied to the diminished range of accommodation consequent on age. It consists in a recession of the near point. It was formerly supposed to be the opposite condition of myopia.

Causes.—Still in dispute. Increasing hardness of lens. Perhaps flattening of the cornea.

Note.—The recession of the near point begins in youth in all eyes and gradually advances, but does not become inconvenient until about the fortieth year. First noticed by inability to see small objects as near as formerly; they must be put farther away, especially in the evening. It should be remembered that distant vision remains unimpaired, or nearly so. Hypermetropic eyes are affected earlier; myopic later, and occasionally not at all. It is wrong to delay the use of lenses when needed; they should be given as soon as the affection becomes inconvenient.

Treatment.—Correct the presbyopia by convex spherical lenses.

SPECTACLES, OR LENSES.

Definition.—The term lens is now given to all transparent masses terminating at least on one side by a spherical, cylindrical or prismatic surface.

Note.—In ophthalmic practice two forms of lenses are generally used, spherical and cylindrical. A *spherical* lens

is a segment of a sphere; a *cylindrical*, the segment of a cylinder. A third form is sometimes used called a *prismatic* lens. There are six kinds of spherical lenses used, plano-convex, bi-convex, positive or concavo-convex meniscus, plano-concave, bi-concave and negative or convexo-concave meniscus. Convex lenses are called *positive* and designated by the sign +; concave lenses are called minus and designated by the sign —. When not otherwise expressed a bi-convex lens is understood to be meant. All spectacles for the aid of the eye are composed of some of the various forms of lenses.* A thorough knowledge of their uses and component materials is all-essential to their successful adaptation. Erroneously adapted they injure and not infrequently destroy sight.

* This subject has been made the basis for an elementary monograph by the author of this work, entitled, Spectacles; And How to Choose Them, to which the reader is referred. Directions as to the proper adaptation, selection, etc., of spectacles, or lenses, with test types for practical use, are given, with profuse illustrations.

THE LIDS.

GENERAL DEFINITIONS.

The Lids are subject to the same diseases as the other parts of the general integument, such as eczema, cancer, erysipelas, ecchymosis, abscess, acne, warts, nævi, etc., and require same treatment as when occurring in other parts, except that it must always be borne in mind that the danger from resultant cicatrices and inflammatory action generally is very great, and often entails irremediable injury which, from similar inflammation, could elsewhere be disregarded.

Ectropion is an eversion of the lid, exposing the conjunctival surface.

Entropion is an inversion of the lid, by which the edge of the lid or the covering integument is in contact with the globe.

Ptosis is a drooping of the upper lid, either wholly or in part; may be caused by paralysis of third nerve, injury of levator muscle, or swelling and increased weight of the lid from inflammation.

Trichiasis is an inversion of the cilia, so that they rub on the globe.

Distichiasis is a similar affection, except that there appears to be a double row of cilia.

Treatment.—For the radical cure of these deformities,

when present in an aggravated degree, an operation is necessary as a rule. Many cases of minor degree, and sometimes of a more serious character, are cured by the appropriate remedy combined with simpler treatment, however. Temporary relief from the latter two may be had by pulling out—*epilation*—the offending lashes.

Requires an exhaustive knowledge of their causes, etc., for which the larger works must be consulted and the knowledge thus gained combined with experience.

BLEPHARITIS CILIARIS.

Inflammation of the Edge of the Lid.

Synonyms: Blepharitis marginalis; Tinea Tarsi; Ophthalmia Tarsi; Lippitudo.

Chief Causes.—Exposure to irritating influences; general debility; filth; anomalous refraction; occurs during course of other inflammations.

Symptoms.—If seen early, edge of lid is hyperæmic; soon becomes swollen, shiny and smooth. Little pustules appear about the roots of the lashes, leaving often small ulcerations and fissures. The discharges aggregate into small yellow scabs, sticking the lashes together.

Note. — This is frequently an obstinate and recurrent disease. If it progresses to a great extent, the lashes often fall out and leave the lid bald—*madarosis*—which becomes hard and calloused—*tylosis*. The glands along the edge of the lids may also become inflamed—*blepharadenitis*.

Local Treatment.—Absolute cleanliness of the edge of the lid. The scabs should be gently soaked off (not torn off)

with warm water, or warm milk and water, several times daily, and a little pure cosmoline rubbed on the cleansed and dried margin. A silver nitrate solution may be advantageously used. If at fault, it is all-essential to correct the refraction by suitable lenses.

Internal Remedies.

Aconitum napellus.—In the acute variety, aconite will be found useful, especially when this disease is caused by exposure to cold, dry winds.

The lids are swollen—especially the upper—hot, dry, and extremely sensitive to the air.

Argentum nitricum is indicated when there is profuse discharge, causing the lids to stick together.

Better in the open air, and with cold applications, are also good indications for its use.

Arsenicum album is often an indicated remedy in this trouble.

It is indicated by burning and inflammation of the margins of the lids, which are thick, red and excoriated by the acrid discharges from the eyes.

The general symptoms, such as the restlessness, thirst, and characteristic burning pains, often guide to its selection.

Aurum metallicum is a valuable remedy when this trouble is associated with granulated lids.

It is also well known as a remedy useful in syphilitic and scrofulous patients, and thus may prove a useful intercurrent.

Calcarea carbonica is to be used when ciliary blepharitis is found in pot-bellied, sickly children, who sweat much about the head.

In the characteristic child, it will often work seeming wonders, and is to be thought of in all such cases.

Cantharis will be found valuable in chronic cases with indurated, red and swollen lids.

It seems necessary to give it quite low, hence the general symptoms should be watched that it may be stopped when in other ways it is contra-indicated.

Graphites.—But for the large majority of cases, no better remedy can be found than graphites.

I have seen it cure when other seemingly better-indicated remedies had been vainly tried.

It is exceedingly valuable when the inflammation is found in scrofulous subjects whose cheeks and lids are covered with an eczematous eruption extending behind the ears, which eruption is moist, with fissures which bleed easily.

When the inflammation, however, is confined to the canthi, especially the outer canthus, which are cracked and bleed easily on opening or attempting to open them, it will be found almost a specific.

In eczema, with a general scurfy condition of the lid margins, it is invaluable.

Mercurius.—In mercurius, especially the corrosivus, we have a remedy called for when the secretions are thin, excoriating, with profuse acrid lachrymation.

The lids are thick, swollen, red and very sensitive to the touch. Scabs and scales are found on the lid margins,

Silicea

which bleed on the removal of the crusts unless it is very gently done.

All the symptoms are aggravated by warmth, whether from artificial or natural heat, as before the fire, or in bed, or on exercising.

Nux vomica is curative often when the inflammation arises from some stomach disorder.

In such cases, other remedies which exert a particular effect upon gastric troubles may be better indicated, and should be considered, and if necessary, intercurrently used.

Pulsatilla nigricans is an extremely useful remedy when the inflammation is found in the characteristic subjects.

When ciliary blepharitis is associated with styes, it is curative of both.

Itching, burning, possibly a bland discharge, especially in those who eat greasy food and crowd their stomachs, are relieved.

All symptoms are better in the open air, and towards evening.

Silica has also been found a valuable remedy.

It is indicated in a scurfy, scabby condition of the margins of the lids, which slight irritation causes to bleed.

The lids are not indurated and the bleeding seems wholly out of proportion to the injury done by the irritation, as on tearing off the little scales.

No one remedy will be found more generally applicable and curative.

Sulphur would seemingly be more useful than it has been found to be.

After a suppressed eruption, blepharitis supervening would call for this drug.

Pains, if present, are of a sticking, burning nature.

In scrofulous children it is often useful as an intercurrent.

An eczematous appearance of the lids in ciliary blepharitis is well met by this remedy, especially where the remedy is used following graphites, or some similar remedy.

Good indications are often found in its general characteristics, though too much reliance must not be placed upon them in this trouble.

LACHRYMAL APPARATUS.

DACRYO-CYSTITIS.

Acute Inflammation of the Lachrymal Sac.

Synonym: Abscess of the Sac.

Chief Causes.—Chronic disease of tear passages; nasal catarrh; conjunctivitis; injury; exposure.

Symptoms.—Tenderness, redness and puffy swelling over the region of the sac and lids, accompanied by great pain. When disease is not arrested the abscess bursts through the skin.

Note.—The abscess should not be allowed to burst externally, as this forms a *fistula lachrymalis;* which is often exceedingly difficult to cure. When such happens, the natural course of the discharge being established, the fistula must be healed by stimulating its edges; if they have become covered with skin, pare the edges and unite with a stitch.

Local Treatment.—Open up the canaliculus to let pus out that way, and keep it open with probes. If the skin over the abscess is in imminent danger of bursting it is better to open the abscess with a knife than allow it to burst; then apply hot lotions and encourage suppuration. As soon as possible heal up the fistula and get the pus through the opened canaliculus. Ice-water lotions and indicated remedy will often cut short an attack if used in the beginning.

DACRYO-BLENNORRHŒA.

Chronic Inflammation of the Lachrymal Sac.

Synonym: Mucocele.

Chief Causes.—Same as Dacryo-cystitis. Faulty position of the puncta.

Symptoms.—Constant irritability and watering of the eye; variable swelling of the sac which, on pressure, discharges pus.

Note.—Mucocele has associated with it many troubles, which are also sometimes independent. Strictures of the lachrymal duct are very common, and must be cured by operation or treatment before this affection can be overcome. This trouble is generally of tedious recovery, and if maltreated seldom gets well. In exceptional cases, after all other treatment has failed, the sac must be obliterated. Inasmuch as syphilis plays an important part in all lachrymal troubles, its presence must be suspected.

Local Treatment.—First, the passages must be opened and kept free by probing or otherwise. In this great delicacy must be observed. Great harm usually is done from too much force and senseless wrenching, and as a result, few cases comparatively are cured. It is better to let them alone than to try to cure them by probing only. Probing is a delicate matter, requiring care and experience. Astringent injections may be made with benefit.

Internal Remedies.

Aconitum napellus in acute cases will relieve the pain, swelling and inflammation.

It is indicated when there is great tenderness on slight pressure, the parts being hot and dry, with a general fever.

Belladonna is indicated in recent cases, when the parts are greatly swollen, with a throbbing and beating in them.

The skin looks red, feels hot, with excessive tenderness on pressure.

Hepar sulphuris promotes the secretion of pus, and is indicated when there is great sensitiveness to cold, as well as to the touch.

It also is useful when the canaliculi are opened and a free exit made for the abnormal secretions.

Pulsatilla nigricans will be called for when the pus is bland and profuse, or stringy at times.

In the characteristic subject, there is often benefit, but I have not seen that general applicability we might be led to suspect.

Rhus toxicodendron.—Rhus is particularly called for when there is a tendency to abortive suppuration, or when the parts look erysipelatous.

It has been found very useful in cases which seemed to resist the other remedies when the patient was known to be of an erysipelatous family.

The parts seem unduly painful, with much apprehension of the result on the part of the patient.

Silica.—In silica is found the most useful remedy we have in the chronic form.

The patient is sensitive to cold air and particularly so to the touch of the parts.

To alleviate the resultant soreness after probing, to control the discharge, and generally as a remedy in chronic cases, it is equalled by no other remedy.

INJURIES.

TO THE GLOBE.

Injuries to the globe, or its appendages, when extensive, are of so serious a nature as to demand the services of one specially skilled in their treatment.

The scope of this work precludes a thorough examination of the subject, but especial attention is directed to those wounds of the ciliary region of the globe, or sclera near it, which seemingly slight, are extremely productive of sympathetic ophthalmia.

Most dangerous of all in their liability to set up this terrible disease, and with scarcely enough exceptions to prove the rule, are those cases in which the wound is penetrating: wounds from blunt points being especially dangerous.

After these, in point of danger, next come those wounds of the sclera or cornea, when in the process of repair, a portion of the iris, ciliary processes, or anterior portion of the lens capsule has become entangled.

On pages 41 and 42, hints have been given as to the treatment; but no general practitioner should attempt the conduct of such cases unless thoroughly familiar with the subject, or under the advice, and with the co-operation, of some one who is.

FROM QUICKLIME.

Injuries to the eye from the accidental contact of quicklime, mortar, lime-plaster, etc., are very common, and cause partial or complete destruction of the eye. The space of one or two minutes is sometimes sufficient for this, their effect being most disastrous on the cornea, producing acute keratitis, subacute keratitis, slough, panophthalmitis, with resultant leucoma or nebulous condition. Symblepharon, anchyloblepharon, etc., are also results of such injuries.

Local Treatment.—Remove at once all the foreign substance, being extremely particular that all is taken out, after which freely syringe with warm water. A spasm of the lids often makes this very difficult. If seen very early, dilute acetic acid (one drachm to one and a half ounces of water), or vinegar and water should at once be put into the eye. This will form acetate of lime, which is innocuous. At the time it is likely to be seen by the physician, however, this stage is past, and a little sweet oil may be dropped between the lids.

The great tendency is for the lids to adhere to the globe (symblepharon) or together (anchyloblepharon) owing to the raw surface made by the burn. These adhesions must be broken up by a probe dipped in sweet oil, and every attempt made to prevent their re-forming. A mild, muco-purulent discharge may set in; to be treated as laid down under that form of conjunctivitis. The resultant corneal opacity is usually indelible; no acid will remove it.

Caution.—Do not stain an abraded cornea with silver

nitrate, and do not use any lead preparations in such a condition.

When there is a slough, a lotion of an ounce of glycerine to six or seven ounces of distilled water will be found very soothing,

General Treatment should not be neglected, as severe injuries to the eye often greatly affect the system.

FROM ACIDS.

Strong sulphuric or nitric acids are often splashed or thrown into the eyes by peculiar accidents, by design, etc., and require immediate attention. They act chemically on the tissues of the eye, and if in sufficiently large quantities disorganize the parts and produce sloughs more or less serious. There is great danger of symblepharon resulting. The cornea is liable to suppurate if the epithelium be destroyed.

Local Treatment.—Copious, deluging quantities of water should be used—a little will do harm. Syringe out the eyes with a weak alkaline solution; drop olive oil between the lids, place oiled linen on the closed lids and apply a roller bandage and pad. After-treatment same as that for quicklime.

FROM BURNS AND SCALDS.

Burns and scalds affect the eye in a manner similar to other parts of the body though more, so that a slight scald elsewhere becomes serious here. A scald whitens the surface,

vesicates the epithelium and produces general redness of the lids and eye.

Local Treatment.—Involves three points: (1) to use that which excludes the air best; (2) that all parts involved in the burn must slough, hence to use soothing lotions until this stage be past; (3) the sloughs having separated, healthy granulations spring up and stimulating applications must be used. Therefore, during the first stage put in a few drops of olive oil, cleanse the discharges from the eye with a glycerine lotion, and cover the eye with a little cotton wool held in place by a turn of a roller bandage. If the lids are severely burned, before applying the cotton wool put on lint soaked in carron-oil (about equal parts linseed oil and lime water). During second stage if the burns are severe and sloughs separating, leave off the bandage and apply soothing applications. Frequently bathe with glycerine lotion; if very painful foment with decoctions; or, if there is no granulating wound of external surface, apply cloth repeatedly wetted with belladonna lotion. Third stage; when sloughs have separated from the eye, or mucous surfaces of lids, or if conjunctivitis be present with muco-purulent discharge, treat as indicated under those troubles.

Note.—The treatment of the resulting cicatrices from accidents and injuries, as well as the direct injury, often involves delicate parts so seriously as to require very skillful aid to save sight, etc. The chances for a favorable operation afterward depend much on the care given at the time of injury.

FROM FOREIGN BODIES.

Foreign bodies in all parts of the eye require removal as the only sure means of relief.

When lodged under the lid or on the conjunctiva, the lid should be turned over in the manner explained on page 20, when their removal is an easy matter. The manner of their removal from the cornea has also been explained on page 20.

When embedded in the sclera and especially in the ciliary region, or lodged in the anterior chamber, iris, lens, or deeper structures of the eye, the case should be referred to one familiar with what is known concerning eye diseases.

TUMORS.

IN GENERAL.

Tumors of the orbit, conjunctiva, iris, etc., are seldom amenable to internal treatment, and must be removed by an operation.

MINOR LID-TUMORS.

Minor lid-tumors, of two kinds, are so common, however, that their treatment may be considered here.

Hordeolum.—Synonym, Stye. Is an inflammation of the sebaceous glands of a hair follicle. Treatment consists in proper remedy internally—pulsatilla or staphysagria usually—but if not seen in time, encourage suppuration with hot fomentations externally, silica internally, and evacuate the resultant pus.

Chalazion.—A tumor usually about the size of a pea, caused by the closure of a duct of a meibomian gland and consequent retention of secretion. Located in cartilage, nearest conjunctival covering, skin over same freely movable and natural in color. Usually several at a time or recurrent. Filled with pus or fatty material, according as inflammation has or has not set in. Treatment consists in evacuating contents and causing the sac to adhere by artificially excited inflammation.

AURAL THERAPEUTICS.

Aural Therapeutics.

EXTERNAL EAR.

THE AUDITORY CANAL.

Foreign Bodies.—All descriptions of foreign bodies are found in the external auditory canal. Detailed summary useless. Pins and needles, beans, peas, marbles, etc., all find a lodging place there. Greatest danger is from injudicious attempts to remove them, or attempts to blindly probe without seeing what is being done. All kinds of injuries, and even death, have thus most needlessly been produced.

Treatment.—Never do anything until a thorough inspection with an otoscope has been made. Then decide what is best to do, and do not poke around with a probe in the vague wanderings of an uncertain hope that good may result. Proper patient syringing will remove almost every kind of body. There are a great many known ingenious devices, some excellent, some quite the reverse. When, however, instruments are necessary, anæsthetize the patient and cautiously dislodge the body and syringe it out. It requires trained hands to properly work within an ear.

Inspissated Cerumen, or dried and hardened ear-wax, is frequently found in the auditory canal, and should be removed on the same principle as any other foreign body. Its presence must be regarded as a symptom of disease, and its removal but the precursor of other treatment.

The symptoms of its presence are ringing in the ears, deafness, sense of fullness, more or less pain, and often reeling and staggering. It is easily seen with the otoscope.

It is not advisable to remove it all at one operation, unless small in amount and easily loosened. When intensely hard, as it often is, some solvent (glycerine and oils are simply useless,) such as ten to twelve grains bicarbonate of soda to an ounce of water, or even a saturated solution, may be instilled several times shortly before its removal is attempted.

Caution.—Never use any force to wrench out this substance. The canal is too delicate to bear violent treatment.

After all is removed, and care should be taken to see that such is the case, a little cotton to deaden the shock of the now increased sounds may be used.

Hints.—

1. The throwing off of small whitish, or whitish-yellow, scurf or scales from the canals indicates trouble with the throat and inter-communicating districts.

2. Discharges from the ears may originate either in the external auditory canal, the middle ear, or the cavity of the skull. An abscess of the brain may burst through the petrous portion of the temporal bone and discharge through the external auditory orifice.

3. Do not conclude because a discharge is maintained through the external auditory canal in a case of pus in the

mastoid cells, that the one opening is sufficient, and no danger to be apprehended. The pus may be burrowing internally at the same time.

4. The ears bleed from too great exertion, as from coughing, vomiting, screaming, etc.; from abnormal atmospheric pressure; from blows on the head, and falls.

5. Changes in the secretion of the ear-wax are in most cases due to a chronic inflammation of the canal. In themselves they are generally more an indication than a cause of auditory disease.

FURUNCULI.

Boils.

Synonym: Circumscribed Inflammation.

Symptoms.—When seated either in a hair follicle or ceruminous gland, the furuncle has in its centre a circumscribed core which must be discharged before resolution takes place. But if seated where the swollen, inflamed connective tissue cannot extend itself, as upon bone, the symptoms of tension will be much more severe. The pain will therefore be much greater in the latter than in the former case. In mild cases it is of a burning, sticking or itching character. In all cases it is accompanied by more or less systemic disturbance, such as fever, sleeplessness, and loss of appetite. The auditory canal becomes excessively tender, an examination becomes a great dread; a slight touching with a probe causes extreme agony. The swelling is not always well marked, and on account of the closing of the canal it is difficult to find their exact seat. One may recover only to be succeeded by another and another.

Local Treatment.—Incise them promptly and use hot water to promote suppuration. If not well marked, find the most tender point and incise that. There is no harm from the free bleeding which may result. No person who has a recurrence will ever object to the knife a second time; its action is most refreshing. The knife should be extremely clean and sharp.

ECZEMA.

Divisions: Acute and Chronic.

Symptoms.—The acute form generally begins with more or less systemic disturbance, and appears locally by the formation of vesicles upon the auricle and within the canal. These soon burst with a discharge of thin serous fluid, which spreads over the skin and dries there, forming crusts or scales. The bursted vesicles form scabs, which if peeled off expose a red surface. The denuded skin under these vesicles ulcerates and pus forms. If a cloth be applied to the discharge from the vesicles, it soon becomes stiff, the discharge drying rapidly. The effusion being always considerable, the auricle becomes swollen and stiff, cracks, and fissures, and the swelling of the canal causes some tinnitus and deafness. The itching and burning is most annoying, but if the vesicles be scratched or torn the trouble is only increased.

Chronic form.—The febrile symptoms and local swelling, itching and burning subside, the vesicles collapse, and dry scabs or crusts take their place. Underneath the scabs will be found considerable pus. The skin is no longer moist but dry, rough, and generally dirty.

Note.—Eczema is a most troublesome affection, but gets well under patient treatment, and good hygienic conditions. When the chronic form is present, consequent on the cessation of menstrual life, taking the place of the usual headaches, it is often exceedingly annoying and obstinate. The irritation from the clothing sets up and perpetuates a discharge which in turn soils the former, and extends down the neck.

Local Treatment.—Whatever may be the immediate cause of eczema, which at present is at least in dispute, hair-medicines, face-powders, brass ear-rings, etc., aggravate the trouble and must be done away with. Syringing with hot water allays the itching and keeps the ear clean.

Internal Remedies.

Alumina is indicated in eczema with chronic inflammation of the auditory canals, accompanied by dryness and smarting.

Apis mellifica often cures when the parts are red, œdematous and accompanied by stinging, burning pains.

Arsenicum album should be thought of when the eczema has burning, stinging, biting discharge, and intense itching.

The discharge is thin, ichorous, and excoriating.

Croton tiglium is indicated when the auricle and canal are hot, flushed, and covered with pustules.

There is intense itching of the canal, worse at night.

Graphites meets eczema well in scrofulous subjects.

The various parts of the ear fissure and crack easily, and are surrounded by thick, moist scabs.

There is heat, dryness and pressure in the canals; scurfs, moisture and soreness behind the auricles.

Mercurius is indicated when there are sharp, irritating discharges, worse at night.

Pulsatilla when the discharges are mild and bland; in the characteristic subject.

Rhus toxicodendron should be tried in the form with the characteristic rhus eruption.

Silica is an excellent remedy, when there is a dry, bran-like scurf.

It is also a valuable intercurrent.

Sulphur may be used as an intercurrent; particularly suited as such with arsenicum and rhus.

Tellurium has been found useful when, accompanying eczema, there is an otorrhœa which smells like fish-brine.

The discharge causes a vesicular eruption upon the external ear and neck wherever it touches the skin.

OTITIS PARASITICA.

Vegetable Fungi.

The auditory canal is frequently the seat of a class of parasites which materially aggravate or cause inflammations of the part. Most commonly they are secondary to eczema. They can be seen only by the microscope.

This subject has of late attracted much attention, and the literature of the day should be consulted for the latest discoveries.

Symptoms.—Sensation of fulness, deafness, vertigo, heavy

dull pain, blackish or whitish flakes blocking up the canal and adhering to its walls.

Treatment consists in removing all traces and subduing the inflammation. The forceps and hot water meet these indications better than any of the many parasiticides recommended.

THE AURICLE.

The auricle is the seat of few troubles not associated with the canal, or other adjacent parts.

Frost-bites are common; require no medical treatment unless to exclude the air by emollient cerates or collodion.

Diffuse inflammation and abscesses should be carefully treated, as they are liable to produce great deformity.

It should be borne in mind that psoriasis, ichthyosis, comedo, acne, and other dermatological, as well as syphilitic diseases, attack this organ.

Malformations and malignant diseases are rare.

Deposits of urate of soda are often noticed in gouty subjects, and may cause some pain.

Hints.—

1. Redness, constant or frequently recurring, indicates hæmorrhoidal affections, menstrual derangement, or faulty action of the abdominal organs.

2. Marked redness, in children newly-born, is a sign of premature birth.

3. Swollen, habitual and not inflammatory, are indications of a scrofulous condition; inflammatory, are due to eruptions, injuries, etc.

4. Redness, is also seen in inflammatory and congestive conditions of the head and ears.

5. Flushes, are often noticed before bleeding at the nose, apoplexy, etc.; but may be caused by mental emotions.

6. Small, purplish, inflammatory or suppurating pimples or spots on the auricles indicate chronic syphilis.

7. Marked displacement, with slight ante- or retro-version of the auricles, often occurs in mastoid disease, or when pus burrows under the scalp.

8. They are hot in diseases of the throat or larynx, or after straining the voice; and in diseases of the head and ears.

9. They are cold in spasms, chills and from exhaustion. In hysterical persons cold auricles indicate the approach of an hysterical spasm; in mania and delirium they indicate a cessation of the paroxysm. Habitually cold auricles are found on weak and chlorotic persons.

10. They also grow pale from exhaustion, the action of frost, loss of vital fluids, fright, chills and spasms. A marked paleness of the left auricle is said to indicate inflammation of the spleen.

MIDDLE EAR.

OTITIS ACUTA MEDIA CATARRHALIS.

Acute Catarrh.

Characterized by a tendency to harden and stiffen the original tissues.

Chief Causes.—Colds in the head; exanthematous diseases; continued fevers; exposure to cold and wet in any form. Sometimes spontaneous.

Symptoms.—Sensation of fulness in the ear; hardness of hearing; noises in the ear, often very annoying; pain worse at night, when delirium may set in; vertigo, and sometimes nausea; general fever; catarrh of the pharynx; anxious expression of the countenance; great restlessness. Membranum tympani swollen and injected.

Note.—Acute catarrh is an inflammation which causes a secretion of mucus but stops short of the production of pus.

Absorption usually takes place, or the secretion is expelled through the Eustachian tubes.

The symptoms given are those of the heaviest form. A light form also attacks, and is very insidious in its course. It generally affects only one, but may affect both ears. It has no pain, causes little deafness, but produces an uncomfortable stuffiness of the ears, and usually slight tinnitus. The membranum tympani shows only the slightest if any change. Patient usually gives slight attention to it, and it goes away

in a few days, often to early return again and again until it becomes securely seated.

In its severer forms this disease may easily be mistaken for cerebritis or meningitis. The inflammation generally starts from the pharyngeal end of the tube, but may be reversed. The pain is not generally so severe as in the acute suppurative form, being of a darting nature and not especially limited to the ear; often mistaken for neuralgia. It is increased by talking, coughing, sneezing, etc., and often forms the chief complaint. Alteration in tone of voice, subjective sounds, etc., often accompany this trouble.

Scarlet fever especially of the exanthematous diseases, shows the greatest tendency to implicate the middle ear, and though the result is generally of the suppurative form, being neglected terrible results follow.

To avoid mistakes, either in diagnosis or treatment, look into the ears of all suspected cases. The "earache" of childhood is identical with the milder forms of this disease.

Local Treatment.—In the early stages, prompt application of the hottest water that can be borne, constantly increasing its heat as it can be tolerated. The aural douche is best for this, or a bag syringe, the bag being hung up at a sufficient height to give the requisite gentle force. A few drops of a two- to five-grain solution of atropia sulphate dropped into the ear, provided the drum-head be imperforate, will quickly, in combination with hot water, relieve the worst pain. Children only require a solution of one-half the strength. A little squirting of warm water with a half ounce, or ounce, glass syringe around the auricle, or down the neck, as is usually done, will not suffice. Inflation of the tympanum

with Politzer's apparatus, or otherwise, is necessary to let out the secretions; or if much is secreted, or inflation impracticable, paracentesis of the drum-head should be at once performed and repeated as often as essential. Well done, no harm whatever will follow. If attack is mild, inflation and remedies will control.

Keep the patient from stuffing the ear with oils, molasses, onions, or other troublesome foreign bodies. If the mastoid region becomes involved, a free incision should be made (see Mastoid Complications). Poultices to the internal parts are dangerous, and not to be used unless absolutely necessary, it being almost impossible to limit their effect.

The great object of the treatment is to prevent suppuration. When once suppuration has set in however, the case has become one of the suppurative form, and must be treated accordingly.

OTITIS ACUTA MEDIA PURULENTA.

Acute Suppuration.

Characterized by a tendency to break down and destroy the original tissues.

Chief Causes.—Often a direct result of somewhat prolonged acute catarrh; always preceded by it, though in many cases the former is overlooked and discharge of pus the first thing noticed.

Symptoms.—In severe cases the symptoms are rapid and violent. All the symptoms of acute catarrh are present, greatly intensified, as a rule. The pain is intense, causing great suffering, and is generally referred directly to the ear,

though extending to the eye and temple, and backward to the occiput. General fever and tendency to delirium are usually marked. Great liability to confounding the disease with brain trouble. The membranum tympani bulges out, is swollen and injected, and not infrequently is colored yellow from the pus behind.

Diagnostic points will be found in the fact that any given quantity of mucus in the tympanum will not cause the bulging out of the membranum that like quantity of pus will. This bulging is usually confined to the posterior half of the membranum. The pain is usually much more intense than under the catarrhal form, and accompanied by a general systemic disturbance. With all this, however, the auricle and meatus may be quite insensible to gentle traction, freeing all suspicions of external otitis as the cause of the pain.

Note.—Acute suppuration is an inflammation which quickly passes over the mucus stage and hurries on to purulent inflammation. Unlike acute catarrh, it is almost never insidious in its attacks, but bold and pronounced.

The tympanum in such attacks is practically by reason of the closure of the Eustachian tube a shut cavity, and confines a raging abscess. On account of the close proximity of the cranial cavity and its contents, and its intimate connection with the tympanic cavity, the life of the patient is often greatly endangered, and by no means infrequently lost by bad management. Prompt, judicious treatment is sometimes necessary to save life, and often saves months of after-treatment in the event of recovery.

In general, swelling in front of the auricle is usually of

little moment; behind the auricle it commands attention. In case the mastoid region becomes involved it should be treated on the principles laid down under Mastoid Complications.

The tendency of this disease is to destroy the drum-head and sweep away the contents of the tympanum. Such dire results are to be carefully guarded against, as destructive of hearing. If it passes into a chronic form, treatment is tedious and unsatisfactory.

Local Treatment.—The congestion and pain are to be reduced as quickly as possible. Hot water, as indicated under Acute Catarrh, will do this, though great relief to the pain will be derived from putting a few drops of a two- to five-grain solution of atropia sulphate in the ear, provided perforation has not taken place. The tendency to poisoning by the solution running directly into the pharynx must not be forgotten. Children only require a solution of one-half the strength. A paracentesis should be done early; if pus has formed it lets it out; if not, the relief to the pain is very grateful, and renders a knowledge of the condition of the tympanum certain.

Caution.—Avoid all forms of continued poulticing.

General Treatment must be directed to relieving the pain and producing sleep. Special attention should be given to the free action of the skin. In the remedies are found most valuable aid, and they should be thoroughly studied and carefully prescribed.

Internal Remedies.

Aconitum napellus.—In the early stages there is no better remedy than aconite.

When there is a high febrile excitement, with acute pains running along the Eustachian tubes to the ear; sharp pains suddenly in the ear; dryness and burning in the throat; it is fully indicated.

Severer symptoms, such as fulness in the ear, deafness and vertigo, with violent pain in the ear and over the whole side of the head, also call for this remedy.

Apis mellifica is most useful when there are stinging, burning pains, with intense itching.

Inflammations following eruptive diseases are well met by this remedy.

Arsenicum album is indicated when there is great prostration and irritability following or accompanying these troubles.

The pains are periodical, and there is chilliness and shuddering, attended by humming in the ears and loss of hearing.

Belladonna is called for when there is local congestion, manifested by throbbing pains, cerebral excitement, or delirium, wild expression of the eyes, with intense pain.

Cantharis is valuable in the dull, heavy, and extremely sore throat often accompanying these troubles.

Hepar sulphuris is very useful in promoting resolution when once suppuration is established, or immediately threatening.

It arrests and cures ulceration of the membrana tympani.

Abscesses are speedily cured by its administration.

Mercurius has a pronounced action on the Eustachian tube and mucous membrane of the tympanum.

Sharp, stinging pains extend into the ears. Pain abates toward morning.

Perspiration profuse, but not relieving.

Pulsatilla is a valuable remedy in the characteristic subject, with mild, bland discharges.

Catarrhal affections of the Eustachian tubes are amenable to its administration.

X

OTITIS CHRONICA MEDIA CATARRHALIS.

Chronic Catarrh.

Synonyms: Nervous Deafness; Proliferous Inflammation; Sclerosis; Progressive Hardness of Hearing; Anchylosis of the Stapes, Etc.

Characterized by a tendency to harden and stiffen the original tissues.

Chief Causes.—Remotely, a feeble state of the system, due perhaps to acquired or inherited syphilis, phthisis, etc. Defective hygienic care, as want of proper exercise, food, etc. Chronic catarrh of the throat. Repeated attacks of acute catarrh of the middle part of the ear. Diphtheria. Scarlet fever. Inseparable from certain climates, especially after any exhausting illness.

Symptoms.—Sense of fulness in the ear; more or less deafness; vertigo often; sensation of air-bubbles breaking and cracking in the ear; noises, of varying sounds, of which great complaint is usually made; imperfect action and changes in the Eustachian tubes; chronic naso-pharyngeal catarrh; changes of more or less injury to the drum-head, such

as alteration in position and shape of the cone of light, deposits, sinking and atrophy. The ear-wax diminishes in secreting; it then becomes brittle, and later on stops altogether.

The earliest subjective symptoms are generally noises and growing hardness of hearing, which usually come on suddenly, and oftenest affect the left ear first, and may then pass to the companion ear. Sharp twinges of pain are felt every day or two. All the subjective symptoms are intensified by fatigue, prolonged conversation or nervous exhaustion of any kind.

Note.—This disease is very tedious in its course; often quite as much so in its cure. Many names have been given it, all more or less noting some of the changes, and indicating a wide variance and incomplete knowledge of its pathology. The noises in the ear are frequently most distressing, and have caused suicide. There is no special sound indicative of special lesions. Each patient is most likely to associate some familiar sounds with them. In common with the appearances of the drum-head, they have been made subjects of exhaustive study, with as yet imperfect results.

Two classes seem however to be well marked, the moist and the dry, and materially affect the prognosis, the former being far more amenable to treatment than the latter. In the former, under suitable medication and local treatment, a more or less satisfactory restoration of hearing and cure may be foretold; in the latter, in the hypertrophied stage the prognosis is unfavorable; in the atrophied stage hopeless. Proliferating bands are often thrown out, quite like spider-webs, and tie down with firm grasp the delicate structures. A peculiar odor, well simulated by moistening the finger with

saliva and allowing it to slowly evaporate, may be noticed about the breath of the majority; most marked in females. Relapses are very common and should not discourage.

For convenience in treating of the subject, and the more properly to describe a large number of cases, a class lying in the tract between the acute and chronic forms, are called subacute. They are such cases as have passed through the acute and linger on the border of the chronic form. There is no special line of demarcation, but such cases yield under less treatment, though were time of existence the only element, they would justly be classed as chronic.

I deprecate the removal of the tonsils. When very much enlarged, amputation of a portion is better than excising, but either generally is unnecessary. Some authors think their removal impairs virility. Independently of all such questions, the practical result is better with the judicious use of remedies in nearly all cases.

No branch of aural disease requires such a thorough knowledge of the whole subject as this often formidable affection. The incomplete knowledge of the pathology, the inaccessible position of the parts to be treated, and the often vacillating mind of the patient, alike combine to render the treatment the most unsatisfactory of all aural practice. A hap-hazard empirical plan of trying this and that in the expectant hope of relief, has nearly always been pursued ere the patient comes under scientific treatment; and even then floating memories of old-time necromantical cures are liable to tempt the patient away, to return again worse than ever. The injudicious determination of those who suffer with acute affections "not to tamper with the matter, but let it wear off" places hundreds on the list of incurables.

OTITIS CHRONICA MEDIA PURULENTA.

Chronic Suppuration.

Synonyms: Otorrhœa; Purulent Inflammation.

Characterized by a tendency to break down and destroy the original tissues.

Chief Causes.—Acute inflammation of the tympanum. Diseases of the bones and parts surrounding the tympanum. Diphtheria. Scarlet fever.

Symptoms.—More or less deafness. Purulent discharge of a more or less offensive odor from the tympanic cavity into, and often out of, the external auditory canal. Pus cleansed away, there may be seen perforation of the drum-head, most frequently in the posterior inferior portion, though it may be anywhere, and varying in size from a pin-hole to two-thirds of the membrane. A drop of pus is often adhering in the perforation, and pulsates synchronously with the heart's action. External meatus and outer surface of the membranum tympani have a bright-red appearance due to the constant bath of pus. More or less pus secreted from the walls of the external meatus is also present. General health frequently below normal standard, and pharynx in a catarrhal state.

Note.—Otorrhœa is the bane of many practitioners, and patients are warned to do nothing, being told the discharge is innocuous or beneficial, and that a stoppage would be injurious. On the contrary, no harm ever comes from properly stopping a foul discharge; improperly stopped or corked up, under the impression that when no longer seen the suppuration no longer exists, great harm may be done.

Death is by no means an infrequent result of neglected otorrhœa; it might follow ignorant and hurtful treatment.

Local Treatment.—There can be no success without absolute cleanliness of the tympanic cavity and the external meatus. The anatomical relations are such that the foul discharge remains a source of constant irritation and self-perpetuation, instead of flowing away as in many other similar diseases. The ear should be appropriately syringed out as often as necessary to keep it clean, and from five to twenty drops of a saturated solution of carbolic acid to a pint of hot water will be found an excellent solution for this purpose. It is not sufficient to carelessly squirt a little luke-warm water at uncertain intervals from a small glass syringe into or about the auricle. A two- to four-ounce hard-rubber aural syringe should be obtained, the hot solution prepared, and the cavities thoroughly cleansed; otherwise success will be problematical. Care is requisite that the patient does not take cold after such treatment. Politzer's bag, or other means of inflation, should be practiced under competent supervision.

Caution.—Local treatment oftener fails to do good from carelessness and inattention of the attendant or patient, than from any other cause. Patience and perseverance are essentials, and are rewarded by success.

Caustics, astringents, etc., will often be found necessary, but are liable to do great damage. They are useless unless of great strength, and in the same ratio the more dangerous. In a certain number of old, neglected chronic cases, their use will greatly accelerate the cure if judiciously used. Nitrate of silver, compound nitrate of silver, and sulphate of copper are the most reliable, and

must be used in varying strengths and with great care. Solutions of from twenty to forty grains of either of the former to the ounce of distilled water, and of from ten to twenty grains of the latter to the ounce of distilled water are the strengths recommended, though the two former can be used in much stronger solutions. They should be applied directly to the thoroughly cleansed surface. Sugar of lead and powdered alum are not recommended. Boracic acid, applied on cotton moistened with cosmoline, sometimes acts well, but is greatly over-rated.

General Treatment is usually very essential. The patient should be thoroughly built up, good air, exercise and a proper diet being very necessary to a radical cure. Salt-water cool baths, with friction of the general surface, are highly recommended.

CONSEQUENCES OF CHRONIC SUPPURATION.

Polypi are a very frequent result of long-continued, badly-treated or neglected suppuration. Though sometimes confounded with malignant growths their diagnosis is generally easy. Usually consist of loose connective tissue, cells and blood-vessels, partaking of the nature of fungus granulations, and grow most commonly from the mucous membrane of the tympanum, more rarely from the surface of the inner half of the external canal. Of a bright-red color, usually granulated like a strawberry, though sometimes smooth, they vary in size from a pin-head to a long tortuous body closing entirely the external canal, and appearing even beyond the external orifice. They may be attached by a more or less

narrow peduncle (pedunculated) or sit upon a foundation approximative to their size (sessile). Soft and excessively tender, they bleed on slight contact, and constantly bathed in pus, are offensive in odor. Their spongy nature, soft and pliable, often makes the mechanical obstruction of the canal and consequent retention of the pus a source of great danger.

Local Treatment consists in removal by any instrument best suited to the position in which they are found. This can usually be quickly and perfectly done, and under competent manipulation results in a permanent cure, slight after-treatment being only necessary. A wire ensnaring the growth and heated suddenly by electricity often quickly removes, and by the application of the resultant actual cautery restrains the usually profuse hæmorrhage. It is pitiable to see the terrible work often made with these growths. A minute drop of acid (chromic, nitric, mono-chloro-acetic, or carbolic,) will often be all-sufficient for those of small size. A saturated solution of bichromate of potash will sometimes be effectual, and is painless.

After all such treatments a dressing of talc should be applied.

Cerebral Abscess is not an uncommon result, but often masked in its symptoms. Nausea and vomiting, or a chill usually precedes fatal symptoms. Long tedious brain troubles in exceptional cases; paralysis, coma and death more frequently.

MASTOID COMPLICATIONS.

Periostitis is the most common complication, and is diagnosed by tenderness on pressure (often extreme), swelling, redness, and pain (often violent).

Local Treatment is absolutely necessary and should be prompt. A free incision over the mastoid process down to the bone should be made, and poultices applied. If the incision be made parallel to and about one-quarter of an inch behind the auricle, about one-half of an inch to an inch in length, and care be taken to cut upward, the operation is a simple affair. In the early stages no pus will be found, but the relief to the tension, so important in periostitis, will be most grateful. In latter stages, suppuration may be profuse and of a most foul odor.

Caution.—Redness and swelling are not infrequently present in the mastoid region in connection with aural disease, but require no local treatment.

Caries and Necrosis are consequences of extension of inflammation just described. Symptoms sometimes obscure; should be carefully studied in works specially devoted to aural disease.

Exostoses and Hyperostoses are bony growths. When congenital occasion little or no trouble; when result of local irritation and consequent on periostitis may require treatment on account of their blocking up the canal. In such case they may be drilled through with a rat-tail file, or a wind or dental engine. Operation dangerous and seldom done.

Internal Remedies.

Arsenicum iodatum is useful in profuse, ichorous discharges accompanied by great prostration.

Asafœtida meets purulent discharges, with diminished hearing after the abuse of mercury.

Aurum metallicum is particularly valuable in troubles of syphilitic origin, when there are thickening of the membranes and swollen cervical glands, worse on touch.

The tissues of the external meatus are bathed in a fetid pus, the odor being characteristic of necrosed bone.

Valuable in fistulous openings and sinuses in the mastoid process, and in caries of the mastoid process and ossicula.

Baryta iodata is highly useful in chronic thickening of the mucous membrane, and to reduce enlarged tonsils.

Bryonia alba is particularly useful in the otalgia of rheumatic subjects, accompanied by great intolerance of noise.

Calcarea carbonica is one of the most useful remedies in these diseases.

It meets polypi associated with purulent discharge;

Scrofulous affections of the bones;

Thickening of the membranum tympani, and

Inflammatory swelling of the parotid glands.

Patients with large abdomen and warts on the hands; scrofulous subjects; fat, rapidly-growing, large-headed, soft-boned children, specially demand this remedy in these troubles.

Cantharis is particularly suited to chronic inflammation of the Eustachian tube and tympanum.

Accompanying low grades of inflammation in the external auditory canal are also well met.

Capsicum is indicated in redness and swelling over the mastoid region.

There are itching and pressure deep in the ear.

Acute symptoms in chronic cases, the mastoid cells becoming involved.

Carbo vegetabilis.—Mechanical obstruction to the Eustachian tubes from swelling of the tonsils is relieved by this remedy.

Causticum has been found valuable in the non-suppurative, proliferating form of catarrh.

Paralysis of the auditory muscles is relieved by its use.

Kali iodatum has an action on thickenened mucous membranes.

Its sphere is not well defined, but seems a valuable intercurrent.

Mercurius has a decided action on thickened mucous membrane, and hence is especially valuable in the proliferous form of middle ear disease.

Hardness of hearing due to swollen tonsils, and when due to obscure troubles, or syphilitic origin are well met by this remedy.

The discharges are thin and acrid, the ears, teeth and face ache, and all symptoms are worse at night. The ear troubles are accompanied by a vesicular eruption on the face and lower limbs.

Mezereum.—In chronic ear complaints associated with syphilis, this remedy finds a sphere of action.

The pains in the bones of the skull are increased by touch and worse at night.

Nitric acid is useful in caries of the mastoid process.

It is also especially useful after the abuse of mercury, and in diseases of the ear following syphilis.

Pulsatilla nigricans has a good action on chronic, mild, bland discharges in the characteristic subject.

The remedy is apt to be abused, however, and its virtues not discovered.

Silica has a direct action on the middle layer of the membranum tympani.

It promotes suppuration, and is invaluable in obscure ear troubles.

Collections in the Eustachian tubes are relieved by it.

Sulphur meets purulent, offensive discharge with eruption on face and body.

Ear complaints from suppressed discharges and eruptions are relieved.

Tellurium is indicated by an offensive otorrhœa smelling like fish-brine.

The characteristic patient is almost the exact opposite of the pulsatilla subject, being angular and sharp.

METHODS OF INFLATION, ETC.

There are three methods of inflating the middle ear, respectively known as those of (1) Valsalva, (2) Politzer, and (3) the Eustachian catheter.

Valsalva's method consists of simply holding the nostrils tightly closed with the thumb and finger, and making forcible attempts at expiration. It has but a limited range and is but little used; deservedly so if for no other reason than that we have a much better way in Politzer's.

Politzer's method, a very valuable one, is based on two well-known anatomical facts, (1) that the pharyngeal orifices of the Eustachian tubes open, while (2) the uvula rests upon the pharyngeal wall during the process of swallowing, thus separating the upper from the lower pharyngeal space.

In order to make use of this method the patient takes a little water into his mouth which he swallows at a given signal. At this moment air is blown by the surgeon from a rubber bag-syringe into the upper pharyngeal space through the nostrils, and thence into the opened mouths of the tubes, and through the latter into the tympanic cavity, thus freeing those parts from obstruction or proving their permeability. Frequently this method will be sufficient for the purpose, but oftentimes we must resort to the

Eustachian catheter. The object of the catheter is to prolong the Eustachian tube from its opening into the pharynx to an accessible point without the head.

Two ways of prolonging this tube have been suggested: one by Cleland, an English surgeon, that of passing a hollow tube (catheter) through the nostril and inserting the distal

end in the mouth of the tube, leaving the other without the nostril; the other by Guyot, a layman, who passed the catheter through the mouth, and in substantially the same manner accomplished a like result. The former method is the only one at present in use. When once in position, air can be passed directly to the tympanum by any suitable means, such as Politzer's air-bag, etc.

As auxiliary to the methods just described, these parts may be auscultated at the moment of their inflation by means of an instrument called an otoscope. This consists of a flexible rubber tube about two or three feet long, suitably tipped at both ends so as tightly to fit in the orifice of the external ear. One end is placed in the surgeon's ear and the other in the patient's. On forcing the air into the tympanic cavity as described, the surgeon listens to the sounds produced and from them judges of the condition of the parts. Much importance was attached to the sounds heard and a compendium arranged, showing what might be diagnosed from a "dry sound," a "crackling sound," etc., which was largely extended; but they are often very unreliable, and in consequence not as useful as was anticipated, though of value at times.

The Pyramid of Light.—Another method of ascertaining the condition of the tympanic contents takes advantage of the fact that in its normal position a cone of light is formed on the membranum tympani, which changes into a square, divided or irregular shape with altered position, whenever the curvature of the membrane is changed. The latter being largely under the control of pathological changes within, this method becomes a valuable diagnostic aid, but requires much

practice and an extended physiological and pathological knowledge to comprehend its indications.

Nominally this speck, or pyramid of light, consists of a triangular reflection of light emanating from the antero-inferior quadrant of the membrane. Its apex touches the tip of the manubrium of the malleus and its base lies at the periphery of the membranum, forming anteriorly an obtuse angle with the handle of the malleus. Its average height is from 1½ to 2 mm., with the same average width at its base.

The cause of this formation has been variously explained by different writers.

ARTIFICIAL MEMBMANA TYMPANI.

A good artificial membranum tympani can often be worn by many persons, greatly improving the hearing where no cure can be effected, hence there have been placed upon the market numerous forms of worthless appliances recommended as substitutes for, or adjuvants to the normal membrane.

It is not necessary that the natural membrane should be gone, or nearly so; often an artificial membrane, well placed, will restore hearing when the natural membrane is almost or quite intact.

But little can be written on the application of these aids to hearing, their beneficial use almost entirely depending upon the kind selected, its practical application, etc. Simple as it would appear, it is an operation of the most delicate tact, and is often successfully and almost immediately done by an expert, after many hours of bungling by one not familiar with the *modus operandi*. It may be said in general, how-

ever, that it should be applied (1) only to the end and one side of the passage, (2) well down to the opening, if there be one, and (3) not covering the external part of the drum, but sideways toward the back, leaving a small opening.

The chief object of their application is supposed to be the rupture of the air bubbles, and the prevention of their reformation in the discharge which lies in and about the perforated membrane.

INTERNAL EAR.

NERVOUS DEAFNESS.

Divisions: Primary and Secondary.

Synonym: Labyrinthine Disease.

Chief Causes.—Primary, severe injury, such as fracture of the petrous bone; from concussions, such as in foundry works, firing cannon, exploding mines, etc.; excessive doses of quinine; meningitis and cerebro-spinal meningitis; cerebral tumors; fevers; syphilis; hæmorrhage or serous effusion into the labyrinth. Secondary, extension from middle part of the ear. Hereditary.

Symptoms.—Staggering gait often, with loss of equilibrium; only certain one, absolute deafness with tinnitus aurium, which usually comes on suddenly.

Note.—Nervous deafness primarily is an exceedingly rare disease. Secondarily, commoner, though the fact that some form of middle ear disease may co-exist should not be forgotten. Such a rare disease is emphasized herein, because so much deafness is erroneously attributed to this trouble when the real cause is occult, and no attempts in consequence are made to relieve. If the diagnostics of diseases of the middle ear were thoroughly understood, much less would be attributed to "nervous deafness." There are no external signs or appearances of the membrana tympani from which this trouble can be diagnosed, but its presence is diagnosed in

the main by exclusion of all diseases of the external and middle parts of the ear by careful examination, and an accurate knowledge of the values and peculiarities of the tuning fork. Unless a practical familiarity with the fork be had, however, many errors in diagnosis will be made.

The diagnosis of this class of diseases may be also confirmed by a consideration of the following items:

1. The history.—This may directly connect the defects of hearing with other nervous troubles. Care should be exercised however that the diagnosis be not misled by circumstances directly attributable to mechanical causes. 2. The degree of deafness.—In this it is difficult to say at just what point, but a very excessive degree cannot depend on absence of conduction; in other words, the congenital absence of the conducting apparatus does not necessarily involve as low hearing power as this disease may produce. 3. Certain peculiarities of hearing.—Hearing worse on attempting to listen, after excitement, fatigue or mental depression. A better hearing for some sounds than for others.

Dr. Meniere, of Paris, recorded some cases of disease attended with loss of equilibrium accompanied with deafness, which were called after him "cases of Meniere's disease," and under this head have since been classified many symptoms of what should be known as "labyrinthine disease," such as nausea, vomiting, vertigo, tinnitus aurium and inability to walk straight, with sudden deafness. A portion of these symptoms may occur in affections of the middle ear, and as also a portion are found in cerebro-spinal meningitis, there is a great liability to err in diagnosis.

There is another class of patients, however, who are often

classed under this head of nervous deafness, which ought to be excluded and the term dropped as erroneous, viz., patients who are weak, unsteady in muscular movement, debilitated in nervous tone, desponding, anxious and affected with a chronic disease of the ear. Nearly all such cases rightfully belong to those of the middle ear, and if impinging on the internal ear class, it will be by extension to that portion of the ear, and not as the primary seat of disease. Persons so-called *nervous*, that is debilitated, anxious and unsteady have not necessarily impairment of hearing, or any symptoms of derangement of the auditory nerve; and affections of the auditory nerve do not make patients nervous in the former acceptation of the term, though they cause unsteadiness of gait.

Treatment.—Must be varied to suit the requirements of each case, and involves a comprehensive knowledge of brain and aural disease. Chronic labyrinthine disease is hopelessly incurable.

TINNITUS AURIUM.

Noises in the Ear.

Tinnitus aurium, or noises in the ear, is not only a more or less constant symptom of most forms of ear disease, but also a troublesome indication of disease in itself, as oftentimes it lingers to the great torment of the patient after all apparent disease has passed away. These noises are the result of nearly every kind of irritation of the auditory nerve, either in its course from the brain, or its final distribution in the labyrinth. Any change of the normal pressure of the laby-

rinthine fluid, as when the stapes is pressed in or drawn outward, produces noises in the ear varying in direct proportion to the force exerted. It is impossible, with some general exceptions, to tell from the nature of the noises where the cause is, for the pressure sufficient to produce these noises may be occasioned by a collection of fluid, or a swelling of the lining of the tympanic cavity; by all obstructions of the Eustachian tubes sufficient to interfere with the ventilation of the tympanic cavity; by the exclusion, by obstruction from any cause, of the air from the external meatus, etc. These noises, too, are generally likened to some sounds with which the patient is associated or familiar, thus not infrequently removing the only guides there might be.

Crackling noises are caused by air passing through the mucus in the tympanum in the moist stages of chronic catarrh, suppuration, etc. Now and again a patient will be found who can voluntarily produce such noises in the ear.

Pulsating noises are heard when from any cause there is an interference with the arterial circulation. In cases of aneurism these sometimes become so loud as to cause deafness.

A changed condition of the blood, as in anæmia and chlorosis, produces a tinnitus similar to the venous blowing heard in chlorotic females. All labyrinthine diseases, and often blows on the head and violent concussions from any cause, are productive of noises in the ear.

A number of elaborate, and so far as our knowledge at present extends, quite exhaustive, treatises on the subject have been written detailing theories and the minute direct causes embraced in the above general heads.

Treatment.—This must be directed to a removal of the

cause so far as it can be ascertained. Many of our remedies are valuable in this direction, a knowledge of which will be gained by consulting the disease whence originates or accompanies this symptom.

DEAF-MUTISM.

Causes.—The causes of this affection are to be found almost invariably in the middle and internal parts of the ear, such as the results of exanthematous diseases (prominent among which are scarlet fever, measles and diphtheria), brain diseases, falls, frights, etc. Congenital often.

Symptoms.—Inability to hear sufficiently to imitate speech, and consequent inability to talk.

Note.—This is not a primary affection, but a condition secondary to disease or congenital defect of the auditory apparatus. With rare exceptions there are no changes in the larynx from which mutism arises. The only reason that the deaf are mute is that the affection is congenital or supervenes at a time when speech is not at all or imperfectly learned. If a patient is deaf at birth, or becomes so during childhood, he will certainly become mute; if he becomes so during youth he is apt to; but if deafness comes on after years of discretion, the chances of muteism are exceedingly remote. Climate exercises a great effect on the production of this affection; even, fertile countries producing the least.

Deaf-mutes may be divided into two classes: (1) the congenital and (2) the acquired. Fourth to sixth month of age is the soonest at which an opinion can be formed as to

wheather an infant is deaf or not. Latter (2) class probably smaller than the (1) former.

It does not require absolute deafness to make a mute. About one-tenth of the whole can hear the human voice as sounds, but are unable to distinguish words; about five-tenths can distinguish loud noises, such as clapping of hands, ringing of bells, thunder, cannon-firing, etc.; the remainder, about four-tenths, are absolutely deaf.

Congenital deaf-mutism is incurable in the present state of our knowledge of the trouble. It is likewise exceedingly rare that a person once a deaf-mute is ever raised to a higher grade of hearing and consequent speech.

The prognosis of the causes of the deafness, combined with the age of the patient, afford the foundation on which to base an opinion as to the curability of the mutism. In no branch of diseases of the human system does a general knowledge of the infirmities of the body as a whole and complete organism avail more than in this class. Exclusive attempts at special and local treatment bring failure instead of success. It is seldom, however, that an opportunity is afforded a medical man to do anything until too late. The patient is either secluded or placed in some school when the effect is noticed, and the cause not ascertained.

"The deaf-mute who presents the most favorable conditions for treatment is he whose accidental deafness has supervened at the age at which he begins to hear and speak, and who still retains some faint evidence of hearing and speech. If the organic lesion, the first cause of the infirmity, be seated beyond the nerve centres; if the child be intelligent and have no brother or sister in the same state as himself; if he be the

child of healthy parents, who have no connection by consanguinity, and if he have never previously been under treatment, the chances of cure are numerous; but if all these conditions are met with in the same subject, the chances almost reach to a certainty. On the contrary, they decrease in value in proportion as one or more of these conditions are wanting, and when all are wanting we should entertain scarcely any hope."

Local Treatment.—This must be guided by a knowledge of the disease causing the deafness, and embraces a full understanding of the procedures recommended under the various known diseases.

General Treatment.—Enforced sanitary regulations, such as isolation from all malarious influences, mental rest, cheerful company, warm and abundant clothing, agreeable and remunerative employment.

REPERTORY OF THE EYE.

Repertory of the Eye.

ANATOMICAL PARTS.

Canthi: Agar. mus., alum., amm. m., ant. cr., apis, arg. met., arg. nit., berb., bismuth, bry., calc. c., cham., colch., fluor. ac., graph., kali b., kali c., lyc., marum v., mur. ac., nat. mur., nux v., phos. ac., psor., puls., ranun. bulb., ranun. scel., sulph.

——, external: Ail. gl. towards —; ant. cr., borax, cann. ind., graph., hep., kali c., mezer., nux v., sep., sulph., zinc.

—— ——, right: Borax, ranun. bulb., sulph. ac.

—— ——, left: Ign.

——, internal: Agar. mus., alum., apis, arg. nit., aur. met., berb., calc. c., clemat., con., gambog., graph., from temple —; iris v., lyc., near —; nat. mur., nux v., paris quad., petrol., puls., ruta, sarsap., sep., spig., stann., zinc.

—— ——, left: Alum., arn., cinnabar., across eyebrows; nat. mur.

—— ——, right: Cinnabar, across malar bone to the ear; rhus t., sulph. ac., zinc.

Cartilages, orbicular: Ruta.

Caruncula: Arg. nit., bell. L. —.

Choroid: Acon., agar., apis, ars., asaf., aur., bell., bry., duboisin, gels., hepar, jaborandi, kali iod., kali mur., macrotin, merc., nux v., phos., phyto., prun. spin., psor., puls., rhus t., ruta, sil., sulph., verat. vir.

Cilia: Alum., aur. met., borax, graph., mag. m., rhus t., sep., spig., thuja.

Ciliary body: Gels, hep.

——, muscle: Acon., act. rac., agar., amyl nit., arn., asaf., atropia, bell., bry., cham., cinnabar., galvanism, jaborandi, kali iod., merc. sol., mezer., nat. mur., nat. sulph., paris quad., physostigma, plant. maj., prunus spin., rhus t., ruta, sil., spig., terebinth.

——, vessels: Spig.

Conjunctiva: Acet. ac., acon., ail. gl., alum., amyl nit., ant. cr., ant. t., apis, arg. nit., toward int. cth.; arn., ars., bary. c., bell., berb., bry., calc. c., calc. hypophos., calend., camph., cann. ind., cham., chelid., chlor. hyd., cinnab., clem., con., crot. tig., cup. alum., cup. sulph., dig., duboisin, eup. perf., euph., graph., hamam., hepar, ipec., iris v., kali b., ledum, lyc., macrotin, marum v., mephit., merc. dulc., merc. peren., merc. precip. rub., merc. prot., merc. sol., nat. c., nat. mur., nux. v., opium, petrol., pod., ranun. bulb., rhus t., sec. cor., spig., staph., sticta pulm., sulph., terebinth., thuja, zinc, zinc. sulph.

Conjunctiva, beneath: Arn.

——, left: Sep.

——, ocular (see Sclera): Arg. nit., bell., bry., ipec., kali b., merc. cor., mezer., opium, sang.

——, palpebral: Arg. nit., arn., bry., caust., china, con., dig.,

kali b., kali iod., kreos., merc. cor., mezer., nat. mur., phos. ac., staph., sulph., thuja.

——, right: Alum., kreos., zinc.

Cornea: Acon., ant. cr., apis, arg. nit., ars., asaf., aur. met., bary. c., calc. c., calc. hypophos., calc. iod., cann. ind., cham., chelid., cinnabar, clem., colch., con., crot. tig., cundurango, duboisin, euph., graph., hamam., hep., hydras., ipec., around —; kali b., kali c., kali iod., kali mur., kreos., lach., magn. c., merc. cor., merc. nit., merc. precip. rub., merc. prot., merc. sol., mezer., nat. c., nat. m., nat. sulph., nit. ac., pod., rhus t., ruta., sang., sep., sil., spig., sulph., syphil., tellur., thuja, zingib.

Disc: Chin. sulph., bell., — deepened in tint; duboisin.

Eyes: Euph., — ext. to frontal sinuses; graph. — to head; nat. carb., from within outward; ranun. scel.

——, across: Cedron, from temple to temple.

——, angle of, inner: Hyos.

——, ——, outer: Asaf., L. —; cann. ind., hyos.

——, around: Apis, in superciliary ridge; carb. v., cinnabar., graph., guaiac., hep., kalm., merc. cor., merc. sol., — and in; nat. mur., nat. salicyl., in and —; nit. ac., phyto., rhus t., sil., tereb., thuja.

Eye, before the: Act. rac., æscul. hipp., agar.

——, below the: Agn. cas., apis, ars., atropia, R. E., L. E. and running back to the ear; graph., kali c., ruta, L. E.

——, between: Physostigma.

——, left: Æscul. hipp., agar., ail. gl., amm. m., ant. c., apocy. can., arg. met., berb., borax, brom., cepa, chelid., con., acts markedly; ign., from head; kali b., lach., especially —; mezer., mur. ac., — to R. E.; puls., rhus t., ruta, inner

surface; sep., sil., squilla, staph., thuja, center of —; verat. vir., zinc.

——, middle of: Kali c., paris quad., spig., sulph.

——, near: Lach.

——, right: Amm. c., bell., borax, bovis., brom., bry., cann. ind., cepa, over — towards root of nose; cinnab., comocladia, croc. sat., ferr., worst; hamam., hyos., hyper., iod. around — passing backwards from int. cth. to articulation of jaw; kali c., kalm., also above —; lach., — to vert.; lith. carb., — and around it; mephit., especially; nat. mur., in and over —; nat. sulph., phos., physostigma, psor., puls., ranun. bulb., rhus t., ruta, sang., sep., sil., sulph., sulph. ac., under —; thuja, zinc.

Eye-ball: Acon., act. rac., agar., anac., ant. c., ant. t., apis, arg. n., arn., asaf., aur. met., badiago, bapt., ben. ac., bry., calc. ph., comocladia, duboisin, upper part; eup. perf., fluor. ac., hep., iod., ipec., macrotin, magn. c., merc. sol., nat. mur., paris quad., phos., phos. ac., phyto., physostigma, plumb., ranun. bulb., sabad., sang., senega, spig., staph., sticta, sulph., tereb., ustilago, verat. vir., zinc., zingib.

——, above: Comocladia.

——, behind: Badiago, lac. ac., ledum, merc. cor.

——, between, or orbital plate: Act. rac., cina, upper.

——, half of: Acon., upper lob. inf.; upper; nux v., lower.

——, left: Æscul. hipp., agar., apis, lower part of; badiago.

——, posterior portion of: Badiago.

——, right: Ars., aur. met., bism., bry., coloc., comocladia, fluor. ac., behind —; prunus spin., ranun. bulb., spig.

Eyebrows: Agar., agn. cas., asaf., caust., cina, con., crot.

hor., crot. tig., gels., hell., lach., in and around ; lachnan., lil. tig., lith. carb., nat. mur., paris quad., around —; physostigma, rhus t., ruta, senega, spig., sulph., tereb., thuja, zinc.

——, left : Act. rac., arn., bry., caust., cedron, chelid., ferr., merc. cor., near root of nose ; mezer., ruta, sulph., above —; thuja.

——, right : Bry., carb. ac., cist. can., upper rim of orbit; chelid., crot. tig., sang.

——, and upper eyelids, space between : Kali c.

Eyelids : Acet. ac., acon., æscul. hipp., æthu. cy., agar., agn. cas., alum., amm. c., ant. c., apis, arg. met., arg. n., arn., ars., asaf., atropia, aur. met., bary. c., bell., ben. ac., berb., bovis., calc. iod., calc c., calc. ph., caust., cham., chelid., con., croc. sat., crot. tig., cyclam., dig., duboisin, eup. perf., euph., ferr., fluor. ac. under —; — gambog., gels., graph., guaiac., hamam., hell., hep., hydrocot., ign., iod., ipec., jacea, kali b., kali c., kali iod., kalm., kobalt., kreos., lachnan., lil. tig., magn. c., mancin., mang. acet., mephit., merc. c., merc. oxyd. flav., merc. peren., merc. precip. rub., nat. c., nat. mur., nat. sulph., nit. ac., nux mos., nux v., oleander, opium, paris quad., petrol., phos. ac., phyto., physostigma, plat., plumb., psor., puls., ranun. bulb., rheum., rhodod., rhus t., rumex. c., sang., sarsap., scutell., sec. cor., sep., sil., spig., spong., staph., sticta, sulph., sulph. ac., tabac., tellur., tereb., thuja, verat. alb., verat. vir., viola odor., zinc.

——, edge or margin : Amm. c., ant. c., apis, arg. met., arg. nit., arn., ars., arum tri., aur. met., badiago, borax, calc. c., carb. v., eup. perf., euph., graph., hep., kali b., kali c.,

kreos., ledum, lyc., magn. m., merc. dulc., merc. oxyd. flav., merc. sol., mezer., nat. mur., nux v., opium, phyto., puls., L. L. L.; psor., right to left; sabad., sang., selen., sep., spig., L. L. L.; staph., — U. L.; sulph., thuja, valerian.

——, lower: Arum tri., bell., near int. cth.; caust., chelid., dig., graph., ledum, opium, puls., ruta, thuja.

—— ——, left: Graph., hyper., phyto., rhus t., toward int. cth.; zinc.

—— ——, right: Ipec., kali c., lyc., nat. mur., ranun. bulb.

——, space between: Agar.

——, upper: Acet. ac. and acon. especially, alum., apis, arn., ars., arum tri., calc. c., camph., caust., cepa, croc. sat., cyclam., dulc., ferr., hep., ign., under —; kali b., lachnan., marum v., merc. peren., merc. sol., nat. carb., nit. ac., nux v., plumb., rheum, sang., sec. cor., sep., sil., spig., squilla, staph., sulph., zinc.

—— ——, left: Alum., arum tri., asar. eup., brom., bry., chelid., merc. peren., merc. sol., mezer., phyto., staph., tellur., zinc.

—— ——, right: Alum., amm. c., bell., bry., ipec., kali c., lyc., paris quad., sulph. borders of.

Fundus: Duboisin, gels., verat. vir.

Humor, aqueous: Arn., gels., kali iod., hamam.

——, vitreous: Gels., kali hyd., lyc., merc. prot.

Iris: Acon., arn., ars., asaf., atropia, aur. met., bell., bry., calc. hypophos., calend., cedron, cinnab., china, clem., con., euph., gels., hep., hamam., kali b., kali iod., macrotin, merc. cor., merc. prot., merc. sol., nat. salicyl., nit. ac., nux v., paris quad., petrol., plumb., puls., rhus t., spig., staph., sulph., tereb., thuja, zinc.

Lachrymal bone: Merc. sol.

—— caruncula: Arg. nit.

——, duct: Alum., arg. met., arg. nit., cepa, R. —; cinnabar., R. around the eye to the temple; galvanism, fluor. ac., kali iod., merc. sol., millefol., nat. mur., nit. ac., sil., region of R. —.

——, gland: Agar., brom., fluor. ac., graph., sec. cor., sil. region of R.

—— sac: Arg. nit., arum tri., calend., hep., kali hyd., merc. sol., nat. mur., petrol., puls., sil. R. —.

Lens: Amm. c., calc. c., calc. phos., caust., colch., con., lyc., magn. c., phos., puls. (?), sec. cor., sep., sil., sulph., tellur.

Meibomian glands: Æthu. cy., dig., eup. perf., euph., hep., kreos., merc. sol., puls., rhus t.

Muscles: Æscul. hipp., under L. E.; aloe, as if in —, worse on right side; aur. met., carb. v., caust., con., external —; euph., galvanism, kali iod., kalm., nat. mur., nux v., ocular —; rhodod. insufficiency of int. recti.

——, recti, external: Cup. acet., nux v.

—— ——, internal: Agar., alum., jaborandi, nat. mur., over R. — —; physostigma, rhodod.

Optic nerve: Agar., arg. nit., bell., bovis., bry. cact. g., chlor. hyd., duboisin, glon., merc. sol., nux v., phos., sang., spig., strych., sulph., zinc., zinc. ph.

Orbits: kali iod., periosteum; sil., spig.

——, back of: Gels.

——, deep in: Aloe, anac., upper margin; bry., colch., oxal. ac., worse in L. —; phos.

——, left: Spig.

——, right, Phyto., lower half of; verat. vir.

Pupils (see Pupils Contracted, etc.)

Retina: Agar., apis, arn., ars., asaf., aur. met., bell., bry., cact. gr., chin. sulph., con., crot. hor., dig., duboisin, gels., glon., hep., ign., jaborandi., kali acet., kali iod., kalmia, lach., lac. ac., macrotin, merc. cor., merc. sol., nat. mur., nux v., phos., plumb., puls., sang., santonine, sec. cor., spig., sulph., verat. vir., zinc, zinc. ph.

Sclera: Ars., aur. met., bell., bry., chelid., cinnabar, clem., con., eup. perf., graph., hep., iod., ipec., kali b., kali c., lach., lept., magn. m., merc. cor., nat. mur., nux v., phos. ac., plumb., puls., rhus t., sang., sep., sil., spig., sulph. close to cornea, thuja.

Uveal tract: Bry., gels., merc. cor.

AGGRAVATIONS.

Abortion, after: Kali c.

Afternoon: Euph., gambog., *phyto.*, zinc.

Age, old: Bary. c.

Air: Acon., bell.

——, cold: Clem., dig., hep., kobalt., *puls.*, sil.

——, draught of: Hep., sil.

——, open: Alum., arg. nit., ars., asarum eup., ben. ac., walking in; camph., canth., caust., clem., euph., graph., hep., kalmia, marum v., merc. peren., merc. sol., nat. mur., psor., *puls.*, rhus t., ruta, sabad., sep., sil., spig., staph., sulph., thuja, zinc.

Anxiety, after: Psor.

Apoplexy, after: Gels.

Applications, cold: Hep., merc. sol., puls., sil.
——, warm: Sec. cor.
Awaking: *Agar.*, spasms; arg. nit., lyc., mezer., sep., staph., *sulph.*
Bathing: *Calc. c.*, puls.
——, E.: Clem., *sulph.*
Bed, in: Cham., *merc. sol.*, nux v., on going to —.
Blowing nose: Aur. met., caust.
Blow on E.: Arn., violent —; cicut. vir.
Bruises: Arn.
Burns: Canth., hamam.
Cataract extraction: *Rhus t.*
Caustics: Nat. mur.
Chlorosis: Nat. mur., in females.
Closing E.: Bell., clem., lachnan., — tightly; mancin., sep., sil., staph., sticta, sulph.
Coal-gas: Sec. cor.
Coition, after: Kali c.
Cold, exposure to: Acon., cham., *caust.*, con., euph., merc. sol., *rhus t.*
——, getting: *Calc. c.*, —, head —; merc. sol.
——, taking: Bry., calc. iod., the least —; puls.
Combing hair: Nux v.
Contusion: Con., ledum.
Coughing: Sabad.
Crying: Tellur.
Dark, in the: Bary. c., lyc., phos., valerian.
Day: Alum., calc. c., croc. sat., euph., ign., mang. acet., nit. ac., phos., psor., *sulph.*, thuja.
Day, all., Act. rac., caust., gambog., psor., staph.

Diphtheria: Caust.
Dissipation: Nux v.
Drunkards, in: China.
Dry, if E. get: Lyc.
Eating: Bary. c., a meal; magn. m., supper; natr. c. and sulph., dinner.
Eruption, suppression of: Ars., sulph.
Eruptive diseases: Apis.
Evening: Acon., act. rac., agn. cas., alum., apis, ars., asarum, borax, calc. c., caust., cedron, cepa, cham., chelid., cinnabar., cup. met, toward —; dig., euph., gambog., gels., graph., hep., ign., kalm., lyc., mephit., merc. cor., merc. peren., merc. sol., *nat. mur.*, nat. sulph., nux mos., petrol., phos., phos. ac., psor., *puls.*, rhus t., rumex c., *ruta*, sarsap., *sep.*, sil., stann., staph., —, — to morning; *sulph.*, tabac., valer., zinc.
Exercise: *Puls.*, getting warm.
Exposure to: Acon., dry, cold air; cham., damp atmosphere; rhus t., to water.
Fall, after a: Cicut. vir.
Fat food: Puls.
Fire, over a: Arg. nit., merc. precip. rub., merc. sol., nat. sulph.
Foot-sweat suppressed: Sil.
Foreign bodies: Acon., cinders, etc.; hamam., — as melted sugar.
Forenoon: Ant. cr.
Foundries, working in: Merc. sol.
Gastric disturbances: Nux v., puls.

Gonorrhœa: Acon., suppressed; arg. nit., puls., suppressed suddenly; merc. cor., — in mother.

Going up stairs: Act. rac.

Headache: Zinc.

Head inclined to shoulder: Gels.

Heart disease: Puls.

Heat: Asarum, out-doors; comocladia, merc. precip. rub., nat. sulph.

Injury of E.: Acon., arn., calend., hamam., paris quad.

Iod. of Potash, abuse of: Aur. met., nit. ac.

Light: Amm. carb., bright — out-doors; bell., ben. ac., berb., borax, calc. c. and calc. phos., artificial —; camph., sun —; china and chin. sulph., artificial —; clem., sun —, bright —; dig., bright —, bright day —, candle —; euph., day or sun —, candle —; gels., artificial —; graph., sun —; hep., bright day —; ign., sun —; ipec., especially candle —; kali c., kobalt. and kreos., bright —; lith. carb., candle or sun —; lyc. —, evening —; mag. mur., mancin. and mang. acet., candle —; merc. iod., bright —; merc. peren., sun, bright or artificial —; merc. sol., fire or artificial —; mur. ac., nat. mur., lamp —; nux mos., nux v., artificial —; petrol., phos., lamp —; phos. ac., candle —; phyto., gas —; puls. —, sun —; rhodod., bright day —; ruta, samb. nig., sarsap., — of day; sep., day or candle —; sil., day —; staph., stram., bright —; sulph., in evening —, bright —, gas — more than sun —.

Living high: Puls.

Looking: Alum., up; apis, at bright object; bary. c., fixedly, or upwards and sideways; carb. v., up; chelid., up; dros., carefully at small things; duboisin, at food while

eating; graph., at anything white or red, or at the sun; hep., at anything steadily; kalm., downward; lachnan., merc. sol., at an object; nat. mur., objects become confused looking at them; intently; down steadily; nux v., at an object; phos., at bright objects; also phos. ac., rheum., intently at an object; rhodod., intently; sabad., at light; upward; senega, at an object; down; spong., fixedly at one spot; staph., at the sun.

Loss of fluids: China, phos., phos. ac.

Lunar caustic: Nat. mur.

Lying down: Cedron, cham., con.

Malaria: China, chin. mur.

Masturbation: China, phos. ac.

Measles: Euph., kali c., puls.

Menses: Act. rac., graph., lith. carb., second day of; magn. m., before; puls., sep., zinc.

Mental excitement: Nux v.

Mercury, abuse of: Aur. met., hep., kali iod., nit. ac., sarsap.

Metastasis: Puls., of gout or rheumatism.

Midnight, after: Ars., rhus t., sulph.

Morbus Brighti: Phos.

Morning: Acon., act. rac., alum., ambra, apocy. c., early; arg. nit., early in —; asarum, bary. c., borax, bry., carb. v., cham., gambog., graph., so that E. cannot be opened before 9 or 10 A. M.; *lach.*, lachnan., lyc., mephit., merc. peren., mur. ac., *nat. mur.*, nat. sulph., nit. ac., nitrum, *nux v.*, petrol., phyto., podo., *puls.*, rhus t., sang., senega, *sep.*, sil., spig., sulph., sulph. ac., zinc.

Motion: Brom., fluor. ac., prun. spin., *spig.*, sulph.

Moving E. B.: Acon., act. rac., agar., apis, arg. nit., arn.,

ars., badiago, bapt., bell., *bry.*, caust., chelid., china, comocladia, cup. met., hep., jaborandi, kalmia, *nat. mur.*, macrotin, phos., physostigma, from side to side; *rhus t.*, sang., spig., staph., the least; sticta.

——, head: Act. rac., lachnan., quickly; mephit.

——, lids: Arn., ars.

——, muscles of face: Puls.

Night, during: Act. rac., alum., amm. m., apis, asaf., *bell.*, bry., cann. ind., *cinnabar*, coccul., colocy., con., crot. tig., hamam., hep., kali c., kali iod., kobalt., lyc., *merc. cor.*, merc. peren., merc. nit., merc. prot., *merc. sol.*, especially before midnight; nux v., plumb., prunus spin., rhus t., ruta, sep., spig., staph., terebinth., thuja, when his rest is disturbed.

Noon: Cinnabar.

Opening lids: Arg. met., any effort; clem., kali b., ledum, spig.

Operation on E.: Mezer., zinc.

—— for strabismus: Berb.

Overdosed: Nux v.

Overexertion: Amm. c., carb. v., macrotin, mephit., as from —; nat. mur., nux v., ruta, senega, sulph.

Overheating: Acon., nux v.

Overstudy: Sulph.

Pressure: Aur. met., bry., hamam., rhus t., sep.

Psoriasis: Sil.

Reading: Agar., agn. cas., amm. c., arg. nit., arn., asar. eup., ben. ac., bry., calc. c., chelid., by artificial light; con., croc. sat., dulc., duboisin, ferr., hep., kali c., kobalt., lachnan., lil. tig., lith. carb., mang. acet., merc. peren., nat.

mur., nat. sulph., oleander, ox. ac., phos., phyto., puls., rhodod., ruta, too much; senega, sep., sulph., sulph. ac.

Reflections from bright objects: Sep.

Rest, at: Colocy., dulc.

Rheumatism: Rhus t., spig.

Riding: Nat. mur., in a carriage.

Ringworms: Sil., before.

Rising from: Cina, bed; hep., sitting bent over; puls., seat or bed; verat. alb.; bed or chair.

Room, in: Ars., croc. sat., only; sulph.

——, warm: Arg. nit., cepa, magn. m., puls.

Rubbing E.: Kalmia, puls., ruta, sep., spig.

Seminal emissions: Lil. tig.

Sewing: Amm. c., apis, arg. nit., merc. peren., nat. mur., ruta.

Sexual excesses: Phos.

Scrofula: Bary. iod., calc. ph., con., graph., merc. dulc., psor., sulph., sulph. ac., syphil., tellur.

Sitting down: Lachnan., after; puls.

Sleeping, after: *Lach.*, lyc., afternoon nap.

Small-pox: Petrol., sil.

Sneezing: Sabad.

Snow, glare of: Ant. cr., ars.

Spinal irritation: Nux v.

Stimulants: Nux v., sil., abuse of.

Stomach troubles: Nux v., puls.

Stooping: Colocy., graph.

Storm, before a: *Rhodod.*, rhus t., sil.

Straining the eyes: Arg. nit., nux mos.

Summer: Nux v., only in; Sep.

Sunshine: Puls.

Sun-stroke: Glon.

Suppression of: Puls., any bloody discharges; sarsap., tetter; sil. and terebinth., foot-sweat.

Sweat: Ant. cr., — touching it; sulph., sil., and terebinth., foot — suppressed.

Syphilis: Asaf., aur. met., cinnabar., kali iod., merc. prot., merc. sol., petrol., staph., thuja.

Tea-drinking: Sep., females; spig., excessive.

Teeth, decayed: Phyto.

Time of aggravation: Ars., 4 A. M.; atropine, 9 P. M.; nat. mur., 6 P. M.; spig., 2 or 3 A. M. (?), 6 A. M. in L. E.; *sulph.*, 1 to 3 A. M.; terebinth., 1 to 3 A. M.

Tobacco: Nux v.

Touch: Acon., agar., arg. nit., aur. met., brom., *bry.*, caust., cepa, chelid., cannot bear the slightest touch afterwards; hep., macrotin, mang. acet., merc. sol., nit. ac., nux. v., sang., spig., slightest —.

Traumatism: Arn., rhus t., sil., verat. vir.

Turning E.: Mephit., in certain directions.

Uncovered: Hep., thuja.

Using E.: Aur. met., calc. c., carb. v., jaborandi, *nat. mur.*, petrol., *physostigma*, rhus t., spig.

Uterine affections: Sep., verat. vir.

Uterus, prolapsed: Lil. tig.

Walking: Ben. ac., puls., commencing to —; sulph.

Warm, getting: Puls.

Warmth: Calc. c., merc. sol.

Washing: Amm. m., aur. met. and nitrum, with cold water; sulph., — E.

Water, exposure in: Rhus t.
Weather, change of: Cham. and spig., any.
——, cold and damp: Calc. c., merc. sol., rhus t., verat. alb.
——, hot: Sep.
——, sultry: Sulph.
Wet, getting: Calc. c., caust., rhus t.
Whooping-cough: Arn.
Wind: Acon., exposure to cold, dry —; nat. mur., in every slight; puls., sep., cold —; spig.
Wiping: Spig., — lashes.
Work, in a damp place: Sil.
——, fine: Carb. v.
Working, in water or rain: Calc. c., rhus t.
Wounds: Calend., ledum.
Worms: Cina, spig.
Writing: Agar., aloe, arg. nit., arn., borax, calc. c., ferr., kobalt., lil. tig., merc. peren., nat. carb., nat. mur., phyto., rhodod., senega, sep., sulph.

AMELIORATIONS.

Air, cold: Arg. nit., *puls.*
——, fresh: Caust.
——, open: Arg. nit., croc. sat., gambog., *puls.*, thuja, sometimes.
Applications, cold: Arg. nit., merc. sol., temporarily; nux v., sometimes; sep.
——, warm (hot): Ars., gels., *hep.*, rhus t., sil., spig.
Bending head backwards: Senega.
Closing E.: Bry., *senega.*

Covering E.: Thuja, warmly.
Dark, in: China, con., mur. ac., nux mos.
Day, during: Nux v., sep., middle of.
Dysmenorrhœa: Verat. vir.
Evening: Arg. nit.
Faint: Verat. vir.
Head: Gels., by holding — erect.
Headache: Zinc., when — passes off.
Light: Valerian.
Looking: Bary. c., downwards.
Lying down: Act. rac., cina, sep., spong.
Noon: Asarum, sep., spig.
Pressure: Asaf., bry., chelid., at first; coloc., firm; con., sometimes; hamam., by — on E. with fingers, but worse for a few moments after; Sulph.
Reading: Duboisin, at double the usual distance.
Rest: Asaf., brom., bry., prun. spin.
Room, in: Amm. m., colocy., con., dark; ruta.
Rubbing E.: Caust., cina, can see more clearly for awhile; euph., merc. peren., nux v., puls., spig., staph., thuja, zinc.
Shading E.: Phos.
Stooping: Acon.
Storm, when it is developed: Rhodod.
Tears, flowing: Sep.
Touch: Caust., hyos., thuja.
Twilight: Phos.
Walking about: Colocy., lachnan., nat. m., room.
Washing: Agar. and asarum, with cold water; mur. ac.
Water, cold: Acon.
Winking: Euph.

Wiping E.: Alum., puls.

CONCOMITANTS.

Abdomen: Croc. sat., as if something alive in; euph., pain in — alternates with pain in eye.

Albumiuria: Ars., *zinc.*

Amenorrhœa: Puls.

Anæmia: Ars., puls.

Anxiety: Acon., arg. nit.

Apoplexy: Acon.

Appetite: Sulph., poor —.

Arms: Berb., violent shooting pains from eyes to —; con., debility of; spig., pain in muscles of L. U. — from L. E. every few minutes.

Arteries: Amyl nit., small, but not abnormally so; bell., retinal; duboisin.

Arthritic troubles: Spig.

Asthma: Acon.

Aversion to: Sulph., washing.

Awakens: Nux v., cross; sulph., because of pain.

Back: Kalmia, characteristic pains; terebinth., pain in.

Blood, rush of, to head: China.

Body: Arn., cool; sil., weakness of.

Boils: Sil., sudden appearance of.

Bones: Merc. sol., pain in, at night.

Brain: Berb., shooting pains through — into eyes; paris quad., feeling as of a thread drawn through eyeball, backward into the middle of the —; thuja, stitch commencing in center of —, and then through center of L. E.; zinc., affected —.

Breath: Merc. sol., offensive.

Breathing: Hyos., slow; nat. mur., short, on least exertion.

Carried all the time, wants to be; Cham.

Catarrh: Merc. iod.

Cheeks: Apis, swelling from eyes to —; ars., excoriated by discharge from eye; cepa, thread-like pain from toward the eye; euph., sore, from acrid tears; as if varnished; kali c., L. — swollen; ledum, sore from acrid tears; lyc., tears corrode; merc. cor., inflammatory swelling of; merc. sol., pimples on; — sore from acrid tears; nit. ac., red; petrol., rough; rhus t., dotted with red pimples; drawing pains; swollen; staph., tears sclald the L. —.

Children: Ant. cr., cross, peevish; calc. c., unhealthy, "pot-bellied," inclined to grow fat; calc. iod., pale, fat; *cham.*, peevish, fretful, cross during dentition; hep., outrageously cross; sulph., irritable and cross by day.

Chill: Eup. purp., sulph., during day.

Chlorosis: Nat. mur.

Cholera infantum: Opium.

Chorea: Agar.

Cold, easily takes: Hep., sil.

Colic: Nux v.

Confused mind: Thuja, for half an hour.

Constipation: Nux v.

Convulsions: Glon., stram., from bright light, or brilliant objects; verat. v.

Coryza: Cepa, euph., sang.

Cough: Ant. cr., worse looking into fire.

Debility: Aur. met., con., especially of arms and legs; sec. cor., nervous.

Desire for: Aur. met., coffee; sil., warm covering, especially about the head.

Die, wishes to: Acon.

Discharge, none: Acon.

——, nasal: Cepa, excoriating; euph., not excoriating.

Dizzy, gets: Spig., turning E.; must turn the whole head.

Dreams: Rhus t., bad.

Drowsiness: Apis, Calad., before dinner.

Dysmenorrhœa: Bell., neuralgic.

Ears: Ant. cr., moist eruptions on or about —; atropine, pain from left orbit; graph., moist eruptions behind —; kalm., stitches in —; puls., diminished hearing; tellur., offensive discharge from —, smelling like fish-brine.

Epilepsy: Hyos.

Eructations: Kalmia, in morning.

Eruptions: Arn., nettle-rash; sulph., eczema.

Erysipelas: Arn., face; kali c.

Face: Amyl nit., flushed; ant. c., pustules; apis, flushed; red; arg. nit., heat in; arn., erysipelas; bell., redness and swelling of; cact. gr., flushed; crot. tig., eruption on; red and burning; hot; ign., spasmodic action of various muscles of; lachnan., red; lil. tig., flushed and hot; magn. m., pimples on, coming and going; merc. dulc., eruption on; merc. sol., eruptions; mezer., eczema; puls., paleness of; acne on; rhus t., hot, flushed; drawing and tearing in malar bones; sang., flushed; sep., eruption on; staph., bursting pain on side of; sulph., whole face swollen; terebinth., side of — swollen.

Faint-ness-ing: Cina, glon., nux mos., after blindness.

Feet: Apis, cold; kalmia, stitches in; sulph., burning.

Fever: Crot. tig., spig., *sulph.*, night.

Fingers: Kalmia, stitches in.

Fluttering: Therid. cur.

Forehead: Æscul. hipp., over left eye; brom., throbbing stitches from eye to L. U. lid; chelid., tearing pain from L. eye; euph., pain in; lil. tig., pricking in skin of; merc. sol., pain; millefol., pain from eyes to sides of —; nux mos., dull; paris quad., as if skin of — were drawn together and bones scraped sore; plumb., nightly tearing pains; prunus spin., a sharp pain beginning in R. side of —, shooting like lightning through the brain and coming out at occip.; sep., pain; sil., tension in; spig., tensive, tearing pain in —, especially beneath the L. frontal eminence, extending toward orbits; thrust-like, tearing pain, worse in R. frontal eminence; a shoot of pain through —; burning pain in R. side of —, extending to eye; thuja, pain in L. frontal eminence.

Giddiness: Con., ferr., ox. ac.

Glands: Aur. met., cervical — swollen; bary. c., bary. iod., particularly the lymphatics, which feel like a string of beans everywhere between the muscles, down to the spinal column; calc. iod., — swollen; merc. cor., — swollen, cervical; merc. prot., — swollen in various parts of the body; sulph. iod.

Gout: Puls.

Hands: Bell., hot; ther. cur., cold.

Hay-fever: Cepa.

Head: Act. rac., pain from eyes to top of —; over L. eye extending to occip.; apis, pain across forehead; tearing pain in flushed —; heat of —; arg. nit., dull pain, especially in

—; arn., hot; asaf., throbbing pain in —; sinciput; bry., shooting pain from eye to —; pain from posterior portion of eye to occiput; pain as from a needle going through; carb. v., congestion to —; cina, dizziness in —; china, rush of blood to —; cist. can., headache on R. side; crot. tig., vesicular eruptions; graph., eruptions on —; drawing from E. to —; ign., pain from — into L. eye; lach., pain from R. eye to vertex; stitches from — to eyes; violent congestion to —; lil. tig., pain from eyes back into —; mephit., aching; merc. prot., sore to touch, from pain from eyes; merc. sol., sore; mezer., eczema; mur. ac., pain in occip.; nat. mur., aching, throbbing; nat. sulph., aching; nux mos., dull; grasps —, it feels so strangely; nux v., pain to vertex from retina; paris quad., pain from eyes to occip.; sore spot there; pressure with the fingers would cause her to cry out; petrol., dull pulsating in occip.; phos., roaring in —; congestion to —; psor., pain down back of —; complains mostly of —; rhus t., pains from eyes to —; drawing pains; sil., drawing pain, nervous sensation in —; spig., must turn the — to look at an object; terebinth., pain from eye to occip., through corresponding side of —, in the course of the supra-orbital nerve; thuja, aching into back of — from eyes.

Headache: Act. rac., agar., left-sided; arg. nit., asarum, congestive; arum tri., badiago, extending to eyeballs, 2 P. M. to 7 P. M.; cactus gr., congestive; ign., jaborandi, kali b., before eye troubles, jaborondi, lach., nat. mur., coming on in morning, often before rising; *nux v.*, dull frontal; opium, congestive; paris quad., worse in evening, confusion of whole forehead; petrol., occip.; *phos. ac.*, of school chil-

dren; puls., tearing, throbbing; plat., rheum, pressing; sang., congestive; sarsap., from behind forward; sep., dull; spig., severe neuralgia; spong., sulph., verat. vir., just before menses or after; zinc.

Health: Calc. hypophos., not good.

Hearing: Calc. c., dull.

Heart affections: Kali c., lach., puls.

Hemoptysis: Phos.

Hydrocephalus: Hell.

Hysteria: Ferr., ign., therid. cur.

Icterus: Sang.

Irritable: Aur. met., nux v., awakens — in morning.

Jaw: Iod. tearing pain from inner canthus of eye, to articulation of —.

Legs: Con., debility of.

Lies down, must: Merc. sol., therid. cur.

Lips: Ant. cr. and kali c., u. — swollen; merc. dulc., *nat. mur.*, sore.

Lung affections: Lach.

Menstrual disorders: Nat. mur.

Mother: Merc. sol., has syphilitic leucorrhœa.

Mouth: Cundurango and *nat. mur.*, sore or cracking of corners.

Nausea: Fluor. ac., ipec., jaborandi, always produced on looking at moving objects; kalmia, in morning; nat. mur., therid. cur.

Negro: Puls., with eye affections.

Nervous people: Ign., sil.

Neuralgia: Iris v., spig., valerian., hysterical.

Nose: Ant. c., soreness of ant. —; arg. nit., dullness in root

of; arum tri., desire to bore into side of; caust., old warts on; graph., thin, acrid discharge; kali b., pain from root of — to ext. angle of the eye exactly; merc. cor., tearing near root of —; soreness and excoriation of; merc. dulc., sore; merc. sol., excoriation of; mezer., itching, biting of skin near; millefol., pressing in eyes to root of —, and sides of forehead; petrol., dryness R. side of —; pain at root of —; purulent discharge from; psor., pain down; puls., ulcerated; sulph., much itching on tip of; zinc., great pressure across root of.

Nosebleed: Ox. ac.

Palpitation: Nat. mur.

Patella: Carb. ac., slight pain under R. —, of short duration.

Pregnancy: Sil.

Restlessness: Ars., after midnight; rheum., inward; rhus t. and *sulph.*, night.

Rheumatic subjects: Bry., rhus t., spig.

Ringworms: Sil.

Scalp: Arg. nit., as if — were drawn down tightly.

Sensitive people: Sil.

—— to draught of air: Hep., sil.

Sick feeling: Nux mos.

Skin: Petrol., rough.

Sleep, awakes from: Nux v. and sulph., because of pain; samb. nig., — screaming.

——, cannot: Verat. alb., because of pains.

Sleepless: Nux v.

Sleepy disposition: Con., nat. mur.

Sneezing: Cepa.

Sore to touch: Merc. sol.

Spasms: Agar., clonic; hyos.

Spine: Agar., very sensitive to touch between shoulders; anæmia of —.

Spinal irritation: Nat. mur.

—— meningitis: Hyos.

Staggers to and fro: Cina, con., as if drunken.

Stand, on attempting to: Cicut. vir., wishes to hold on to something.

Stomach: Acet. ac., sour; puls., derangements.

Sweat: Calc. c. and calc. iod., about head profuse; merc. sol., night — and no relief; spig.

Tearful females: Puls.

Teeth: Chelid., tearing pain from L. eye; staph., pains extend to — from eyes.

Temples: Atropine, slight pain; badiago, pain from eyes; aching pains; berb., violent shooting pains from — to eyes; brom., throbbing stitches from L. U. lid; cedron, — to —; chelid., tearing pain from L. eye; graph., stitches from — through eye to inner canthus; merc. cor., pain in —, at night; merc. sol., pain; spig., boring pains; staph., bursting pains.

Tetanus: Acon., phyto.

Thirstless: Apis.

Thirsty: Rhus t.

Throat: Lach., when pressed on, eyes feel as if forced out.

Tongue: Merc. cor., coated; *merc. prot.*, thick yellow coat at base of.

Tonsils: Calc. iod. and calc. ph., enlargement of.

Trembling: Arg. nit., of whole body.

Twitching: Agar., of facial muscles.

Unconscious: Spig.
Urine: *Terebinth.*, scanty and high-colored.
Uterine affections: Nat. mur., puls., sep., sil.
Vaso-motor disturbances: Amyl nit.
Veins: Amyl nit., — of disc, become enlarged; varicose, tortuous; bell. and duboisin, retinal; tellur.
Vertigo: Acon., agar., alum., con., gels., glon., jaborandi, kali b., verat. vir., relieved by closing eyes and resting head.
Vomiting: Nat. mur., nux v., puls., inclination to.
Walk, cannot: Verat. vir.
Weakness: Nat. mur., muscular, general; sep.
Whooping cough: Carb. v.
Zygoma: Chelid., tearing pains from L. eye.

SYMPTOMS.

Objective and Subjective.

Above downward: Bry., pressure — R. E. B.; — malar region.
Abscess: Calc. hypophos., *hep.*, merc. cor., mezer. and sulph., cornea; puls., margins; rhus t.
Absorption of lens fragments, promotes: Senega.
Accommodation, paralysis of: Arg. nit., duboisin, before dilatation of pupil and after the latter has recovered; physostigma, locally.
—— recovers before the pupil: Physostigma.
——, spasm of: Lil. tig. (?), *physostigma.*
——, sluggishness of: Con., gels.
——, weakness of the: Arg. nit., con., duboisin, "true;" nux v., in one eye.

Accommodative apparatus: *Jaborandi*, approximation of the nearest and farthest points of distinct vision; tension of.

Aching: *Acon.*, act. rac., E. B.; æscul. hipp., over L. E.; agar., L. E. B.; ail. gl., apis, lower part L. E. B.; arg. nit., — pain deep in eye; badiago, slight pain in posterior portion of both E. B.; — bry., steady — in posterior portion of eye, extending through to occip.; *chelid.* E. B.; cinnabar., con., across eyebrows; dulc., gels., glon., graph., hep., — L.; kobalt., lach., especially L. E.; lac. ac., steady — in and behind E. B.; lept., macrotin, merc. prot., merc. sol., nat. mur., E. B.; petrol., phos., eyes; orbits; forehead; podo., phyto., — along lower half of R. orbit; rhus t., *ruta*, in and over eye; senega, over orbits; sulph., — L.; terebinth., thuja, in and over eye; ustilago, verat. vir., upper part of R. orbit.

Acid in eye, pain as from; Rhus t., R. E.

Acts on: Thuja, sclera prominently.

Acute attacks: Acon.

Adhere: Æthu. cy., edges of lids, at night, must be washed open in morning; alum., as if L. would — in corners.

Adhesions: Physostigma, tears — of iris.

Agglutinated, as if: Caust., to L. L. and could not be easily loosened.

Agglutination (See "glued together").

Alternates from one eye to the other: Ars.

Amaurosis: Alum., arg. nit., aur. met., *bell.*, dulc., gels., ign., *nux v.*, *phos.*, phos. ac., ruta, *sulph.*, tabac., zinc.

Amblyopia: Bell., china, hyos., lach., nat. m., nux v., opium, phos., puls., ruta, sil., strych., tabac., terebinth., thuja,

Anchylops: Staph., leaving a small hard tumor.

Anæmia: Agar. and spig., of optic nerve; agar., retina and choroid; chin. sulph., disc and retina.

Anæsthesia: Hep., jaborandi and zinc., — of retina.
Angry appearance of: Kali iod., eye.
Apoplexy of retina: Bell.
Astigmatism: Agar., gels., *jaborandi*, physostigma, sep.
Asthenopia: Acon., act. rac., agar., amm. c., apis, arg. nit., asarum, cact. g., calc. c., carb. v., chlor. hyd., cinnabar., comocladia, con., duboisin, eserine, gels., hamam., hydras., jaborandi, kalmia, lach., lept., lil. tig., macrotin, merc. peren., mur. ac., nat. mur., nux v., phos., physostigma, puls., quinine, rhodod., ruta, santonine, sec. cor., sep., spig., stilling., sulph.
Atrophy of the optic nerve: Arg. nit., nux. v., strych.
—— choroid: Kali iod.
Axis of eye: Physostigma, differs in each.
Beaten, as if: Calc. ph. and hep., E. B.
Beating in (pain): Asaf., hyos., R. E.; terebinth.
Beef, looks like a piece of raw: Ars., conj.; sulph., cornea.
Bind the eye, must: Fluor. ac., with a cloth.
Biting in (pain): Agar., E. L., eyebrows; apis, arg. nit., especially in canthi; canth., caust., euph., at times; graph., kali c., merc. sol., as from horse-radish; mezer., eye; margin; nit. ac., nux v., especially ext. cth.; *puls.*, int. cth.; L.; ranun. bulb., rhus t., R. E.; E.; ruta., int. cth.; L. L.; stann., as from rubbing with a woolen cloth, sulph., valerian., margin; zinc., ext. cth.; R. int. cth.; R. E.
Black before E: Cina, sep.
Blear-eyed: Puls.
Bleeds easily: Graph., cth.; hep., L.; merc. cor., nux v., — on opening.
Blenorrhœa: Calc. hyphos., calend., kreos., merc. prot., merc. sol., nat. mur., nux v., petrol., puls., sil., stann., sulph., zinc.

Blepharitis: *Ant. cr.*, obstinate; apis., with thickening and swelling; — chronic; arg. met., arg. nit., ciliary; ars., aur. met., calc. c., calc. iod., caust., cinnabar., euph., gels., graph. and hep., chronic; lyc., ciliary; merc. cor., merc. dulc., ciliary; merc. prot., merc. nit., int. and ext.; merc. oxyd. flav., marginal; merc. sol., acute and chronic; nat. mur., nux v., petrol., psor., right to left; puls., acute and chronic; rhus t., senega, sep., chronic ciliary; sil., stann., sulph., especially chronic.

Blind: (see Vision, loss of).

Blindness, feeling of: Hep.

——, transient: (see Vision, transient).

Blinking: Chelid. L.; merc. peren., nux v.

Blisters: Aur. met., little — on margins; tellur., near edge of cornea; nat. sulph., like —.

Bloated: Sarsap., int. cth.

Blood, exudation of: Crot. hor., nux v.

——, fluid condition of: Arn., corrects.

——, sensation of too much: Millef.

—— shot: Amm. c., arn., E. B.; hamam. R. E.

Blur before eye: Jaborandi, especially looking at a distance.

Blurred eye: Euph.

Blue margins around eye: (see Circles).

Bluish color: Badiago, margins; sarsap., int. cth.

Boil, sore as a: Bry., seat of pain.

Boring pain: Arg. nit., over L. E.; *asaf.*, severe — above brows; *merc. sol.*

Brilliant eye: Æthu. cy., bell., lachnan., millef., stram.

Bruised: Acon. and hamam., int. and ext.

——, as if: Ant. t., aur. met., bone around E.; coccul., cup. met. in orbits; hep., ruta, in orbicular cartilages; sep.

Bruised pain: Gels., above and back of orbits; sulph.

Burning: *Acon.*, E. L.; æscul. hipp., deep in L. orbit, as if it surrounded the E. B.; agar., cth.; int. cth.; agn. cas. E.; alum, L.; amm. c., amm. m., cth.; apis, margins; arg. nit., especially in cth.; dry — without real dryness; *ars.*, violent; — margin; asaf., — ulcers on cornea; E. B.; asarum, aur. met., int. cth.; L.; bapt., bell., ben. ac., E.; L.; berb., conj.; bry., R. E.; calc. c., margins int. cth.; calad., canth., caps., carb. v., caust., cham., cinnabar., R. E.; clem., con., E.; int. surface of L.; croc. sat., sore; crot. tig., euph., margins, — stitching; ferr., gambog., E.; L.; graph., int. cth.; hydras., ign., iris v., int. cth.; jaborandi, kali b., kali c., kali iod., kreos., heat; conj.; lachnan., ledum, margin; lil. tig., lyc., L; magn. c., magn. m., mancin., — L; mang. acet., mephit., merc. cor., E. margins; merc. iod., merc. peren., merc. sol., pain in and around E., E. L., as from fiery points; *nat. mur.*, E., L. margins; nat. sulph., R. E. margins; nit. ac., nitrum, nux v., — as from salt; L., especially the margins; oleander, opium, petrol., int. cth.; E.; phos., small — spots on E. B.; phos. ac., L. and cth.; phyto., pain in E.; psor., *puls.*, L.; ranun. bulb., R. L. L.; rhodod., rhus t., E. L., (R.) int. cth.; ruta, E.; beneath L. E.; sang., E. margins; senega, sep., sil., spong., staph., sticta, L.; *sulph.* — L. int. and ext., cth., margins; — as from lime; tarax., thuja, margins, E. L.; zinc., L. L. E., constant, L.; zingiber.

Burning pain: Apis, ars., calc. c., euph., graph., around E.; kali b., kali c., ext. cth.; merc. peren., L. E.; merc. sol., mur. ac., sharp — from L. E. to R. E.; nux v., E. and L.; psor., rhodod., rhus t., *spig.*, R. side of forehead, ext. to E., R. E. B.; contractive —.

Burrowing pain: Spig., middle of E. and int. cth. violent.
Bursting pain: Glon., staph.
Capillaries enlarged: Clem., euph.
Caries: Sil., of orbit.
Cataract: Amm. c., R. E.; *caust.*, (see half perpendicularly); colch., soft; con., from contusion; magn. c., puls. (?), sec. cor., soft or hard, — senilis; *sep.*, sil., sulph.
——, arrested: Calc. ph., caus., lyc., when prescribed for dyspeptic symptoms; phos.
Cellulitis, orbital: Hep., lach., phos, inflammation slow in its course and not attended by severe pain; rhus tox.
Chalazone: Graph., in all stages; staph., one after another.
Chemosis: Acon., apis, arg. nit., euph., hep., kali b., kali iod., merc. sol., phyto., puls., rhus t., terebinth.
Chipped out, look as if: Merc. prot., the cornea by ulcerations.
Choroiditis: Ars., aur. met., bell., bry., gels., hep., jaborandí, kali iod., merc. sol., nux v., phos., phyto., prunus spin., psor., ruta, sil., sulph.
——, retino: (see Retino-choroiditis).
Cicatrices on cornea: Apis, hyper., relieves pain in old; sil.
Cilia: Graph., hep. and rhus t., — fall out; borax, irregularity, — turn inward; thuja, imperfect and irregular.
Circles around E. dark blue, blue or bluish: Ail. gl., cicuta vir., hell., kreos., nux mos., — green blue; phos., sabad., sec. cor., sulph. ac., under R. E., also see rings, etc.
Circles around cornea, blue or bluish: Acon., spig.
—— —— ——, pale: Kali b.
—— —— ——, red: Ipec., spig. and sulph., pinkish.

Clear sighted : Hyos., valerian.
Close the E., desire to : Calc. c.
—— ——, too firmly, as if (see "Spasmodically,"): Ambra, — from pain.
——, inclination to : *Caust.*, gels., when looking steadily; jacea, as from sleeping; sep.
——, involuntarily : Caust., gels., merc. sol., nat. carb., nat. mur., *nux mos.*, *rhus t.*, *sulph.*, five or six times.
——, half : Agar., gels., opium.
——, can hardly : Nux mos.
——, lightly : Lauroc.
——, must : Calad., even while walking in the open air; canth., *euph.*, gels., merc. sol., psor., constantly.
——, spasmodically : Ars., coccul., hep., hyos., merc. cor., merc. sol., nat. mur.
Cloth, as from rubbing with a woollen : Stann.
Cloudiness of : Gels. and kali iod., — aq. humor.
Coldness, sensation of : Alum., arg. nit., berb., like from a cold wind; calc. ph., behind E.; graph., over the E.; kali c., L.; phos. ac., of inner surface of L.; plat., in E.; spong.
Cold stream of air was blowing out through E., as if : Thuja.
Colors appeared, as if all : Con., white.
Come and go suddenly, pains : Cedron, ferr.
Compression, feeling of : Cham., tight, from all sides; lachnan., L. E. B., from below upward; nat. mur., E. B.
Condylomata : thuja, on iris.
Congestion : Acon., intense; act. rac., ail. gl., apis, conj.; arg. nit., ocul. and palp. conj.; arn., bapt., bell., optic nerve; retina; cact. gr., carb. v., cepa, capillaries; gels., L.; glon., sang. and phos., of retina; spig., ciliary vessels; sulph., optic nerve; zinc., zinc. ph.

Conjunctivitis, catarrhal: Acon., alum., apis, arg. nit., arn., ars., bell., calc. c., caust., cepa, cinnabar., cup. sulph., euph., graph., hep., ign., merc. sol., nux v., puls., rhus t., sang., sep., sticta, zinc. sulph.

——, croupous: Acet. ac., ars., hep., kali b., merc. prot.

——, pustular: Ant. c., apis, ars., aur. met., bary. iod., calc. c., calend., cann. ind., con., crot. tig., euph., graph., hep., ipec., kali b., merc., nat. mur., nux. v., psor., puls., rhus t., sep., sulph., tellur., thuja, zinc.

——, purulent: Acon., apis, arg. nit., calc. c., calc. ph., euph., hep., merc. sol., nit. ac., puls., rhus t., sulph.

Conical cornea: Calc. iod., puls.

Constriction: Merc. sol., of L.

Contorted: Stram., verat. vir.

Contraction of: Agar., fissura palp.; paris quad., feeling of — in int. cth.; rhod., L.; sep., feeling of; tabac., L.

Contused wounds: Arn.

Convulsive movements: Bell., of E. B.; cina, superciliary muscle.

Corneitis: (see Keratitis).

Cover the eye, must: Sulph.

——, as if L. did not: Sep.

——, cannot bear to: Apis.

——, as if mucus does: Euph.

Cracks in: Graph., cth.

Cramp: Ruta., L. L.; the tarsal cartilage is drawn back and forth; arn., (L.) E. B., like tearing.

Crawling pains: China, E. and inner surface of L.

Crushed, as if: Prun. spin., E. B.

Crusts on L.: Ant. c., arg. nit., aur. met., merc. cor., merc. oxyd. flav., merc. precip. ruber.

Cutting L., as if: Nux v., L. L.

Cutting pain: Amm. c., aur. met., through E.; calc. c., L.; colocy., sharp — R. E. B.; euph., pressive, extending to frontal sinuses; spig., margin L. L. L.; sulph., margins, ext. cth.; severe — R. E.

Cysts: Merc. sol., meibomian.

Darting pain: Apis, croc. sat., L. E. to R. E.; eup. perf., through E. as from needles; E. not inflamed; kobalt., nux v., in and over E.; sil., through E. and head; *sulph.*

Dart from object to object: Ustil., E.

Darkness before E: (see Black before E.), nat. mur., puls.

Dazzled, E. feel: Senega.

Dazzles the E., light: Ars., bary. c., con., dros., phos., sil., day; stram.

Deposit on: Tellur., chalky-looking white mass on anterior surface of lens.

Depressions: *Ipec.*, a number of small — on cornea.

Dermoid swellings: Nat. carb., of conj.; nit. ac.

Descemititis: Gels., kali b., characterized by fine punctate opacities.

Digging pain: Colch., deep in orbit.

Dilated: Duboisin, retinal veins.

—— pupils: (see Pupils Dilated).

Dim E.: Bovis., caust., cepa, china, cup. met., lyc., nat. c., nit. ac., sang.

Diminished: Duboisin, retinal arteries.

Dimness before E.: Aloe, croc. sat., *puls.*

—— of: Ipec. and zingib., of cornea.

Diplopia: (see Vision, double).

Discharge: Millef.

——, accelerates the: *Hep.*, of pus; nux v. (?)

Discharge, acid: Colocy.

——, acrid: *Ars.*, calc. c., *euph.*, graph., *merc. cor.*, *merc. sol.*, *nat. mur.*, sulph.

——, bland: *Puls.*, sticta, zinc. sulph.

——, bloody: Cham., nux v. (?)

——, constant: Graph.

——, burning: (see Discharge, acrid).

——, excoriating: (see Discharge, acrid).

——, glutinous: Eup. perf., from meibomian glands; Euph.

——, ichorous: *Merc. cor.*

——, mixed: Con., — with tears; cup., cup. sulph.

——, moderate: Sang.

——, mucus: Ant. c., *arg. nit.*, calc. c., cham., con., cup., cup. sulph., euph., graph., hydras., kali iod., lachnan., lyc., merc. sol., nat. mur., petrol., puls., rhus t., sep., sulph., zinc.

——, profuse: Ant. c., *arg. nit.*, calc. c., con., euph., hep., kali b., kali c., kreos., merc. precip. rub., merc. sol., *puls.*, sil., stann., sticta, tellur., zinc.

——, not profuse: Zinc. sulph.

——, purulent: Arg. met., arg. nit., bapt., bry., calc. c., cham., con., euph., graph., kali iod., lyc., copious; merc. precip. rub., merc. sol., nux v., petrol., puls., rhus t., sep., sulph., tellur., zinc.

——, pus-like: Ail. gl., cup., cup. sulph., graph.

——, stringy: Kali b.

——, tenacious: Sulph.

——, thick: Calc. c., *euph.*, *puls.*

——, thin: Ars., alum., graph., merc. cor., *merc. sol.*, *nat. mur.*

Discharge, viscid: Agar.
——, watery: *Nat. mur.*
——, white: Petrol., *puls.*, stann.
Discolored: Spig., — iris.
Distended with air, as if: Ars., L.
Distorted: Acon., in tetanus; bell., calc. ph., E. B.; hyos., lauroc., verat. alb.
Distressed, as if: Ruta.
Dragging feeling: Sep.
Drawn back and forth: Ruta, L. L. tarsal cartilage.
—— down: Merc. sol., L.; viola odor., L., as from sleepiness.
—— in, edges of L.: Arg. met.
—— into orbit, as if: Bry.
—— together: Bry., L. U. L.
—— toward: Cyclam., L. E. to int. cth.
—— upward: Lachnan., eyebrows and lids.
Drawing pain (sensation): Aur., int. cth., L.; cann. sat., spasmodic; cinnabar., from right int. cth. across malar bone to ear; colch., deep in orbit; gels., over E.; glon., graph., extending from E. up into head; kalmia, muscles around E.; lach., R. E. to vert.; lith. carb., deep in R. E. and around it; nat. mur., muscles; paris quad., from E. to occip.; physostigma, — R. E; puls., rhus t., region of eyebrows; senega, E. B.; sep., ext. cth.
Drooping of L.: Gels., nat. mur., sep.
Drowsiness, sensation of: China, merc. sol.
Dry: *Acon.*, L.; alum., L., int. cth.; arg. nit., L. not real dry; ars., L.; asarum, painfully —; bary. c., *bell.*, berb., E., int. cth.; canth., real —; caust., clem., cyclam., L.; duboisin, euph., — pressive, L.; graph., L.; hell., L.;

lachnan., lith. carb., lyc., L. E.; magn. c., mang. acet., *merc. peren.*, mezer., *nux mos.*, nux v., int. cth.; opium, petrol., L.; puls., R. E.; E.; L.; rhodod., rhus t., rumex c., sang., E.; U. L.; sep., margins, E.; sil., staph., margins; sulph., E., inner surface of L., margins, margins R. E., E. B.; thuja, verat. alb., L. excessively — ; zinc., E. B.

——, as if too: Arn., L.; clem., ign., U. L.; lyc., nat. mur., staph., zinc., L. L.

Dull E.: Carbo v., glon., iris v., feel —; kalmia, kreos., phos. ac., rheum.

—— feeling: gels., phyto.

—— pain: Bry., especially L. E; ledum, behind E. B.; physostigma, over E. and between.

Dust, as if in E.: Ail. gl., L. E.; ambra, lachnan., lyc., opium, rhus t., zinc., R. E., frequently.

Ecchymoses: Arn., hamam., kali b., small spot here and there, like —; *ledum*, L. conj.; nux v., sang., conj.

Ectropion: Apis, arg. nit., hamam., locally; merc. precip. rub.

Enlarged: Bell., retinal arteries and veins much —; the veins markedly so; euph., vessels of conj.; rhus t., meibomian glands; tellur., — veins, running horizontally toward the cornea, ending in little blisters near edge of cornea.

Entropium: Acon., arg. nit., calc. c., graph., nat. mur.

Episcleritis: Aur., low forms; merc. cor., merc. sol., nux mos., puls., terebinth., thuja.

Eruption: Ant. t., ars., bell., crot. tig., — on L., herpes zoster ophthal.; graph., moist, fissured, bleed easily; eczema on cornea; pustules on conj. and cornea and along tarsi;

guaiac., hep., pimples around E., thick honey-comb scabs on and around L., conj. herpetica; magn. m., tinea ciliaris; merc. cor., pimples around E., like small boils; merc. sol., mezer., L. eczema, characterized by thick, hard scabs from which pus exudes on pressure; nit. ac., herpes; ranun. bulb., herpes zoster supra-orbitalis; sarsap., itch-like — on L.; sep., red herpetic spot on U. L., scaly and peeling off; acne ciliaris; sulph., eczema on L.; tellur., eczema impet., L., herpes conj. bulbi.

Erysipelas: Apis, L., they are dark bluish-red, and so swollen as to close the E., following severe pains; arn., commencing in int. cth. of L. E. and spreading to the face; Bell., — inflam., L.; calc. iod., do, chiefly U. L.; merc. cor., merc. sol. and rhus t., L.; verat. vir., L., face and head.

——, as if: Hep., L.

Erythema: Bell., L.

Everted L.: (see Ectropion).

Excoriation: Alum., int. cth.; ant. c., L.; apis, L. margins; merc. cor. and merc. sol., L.

Exophthalmos: Amyl nit., badiago, cact. gr., galvanism, ferr. iod., ferr. acet., ign., lycop. virg. (?), nat. mur., spong., thuja, dependent on a tumor behind the E. B.

Extravasations: Arn. and crot. hor. assist absorption in conj., aq. humor, retina, or other intraocular tunics, when traumatic; ledum, lach.

Exudation: Aur., — in vitreous, also kalmia.

Fall out, cilia: Alum., aur., calc. c., rhus t.

——, as if the E. would: Colocy.

Faint appearance of E.: China.

Far-sight: (see Presbyopia).

Fatigued easily: Apis, Sulph.
—— feeling: *Ruta*, sep.
Fears to open L.: Clem., psor.
Feathers were before E., as if: Alum.
—— —— on the lashes, as if: Spig.
Feeling in E., rough: Ail. gl.
Fiery look: Canth.
Film over E., as if: Croc., physostigma.
Fire, sensation of: Ruta, even as balls of —; sep., especially L. E.
—— streams out of E., as if: Clem.
Fissured: Graph., ext. cth.
Fistula: Sil., cornea.
—— lachrymalis: Calc. c., suppurating; fluor. ac., merc. sol., with ext. ulceration; millefol., nat. mur., nit. ac., petrol., swelling like a —; — of recent origin; puls., sil., acute —; bone affected; stann., like a —, at L. int. cth.
Fixed E.: Camph., hyper., lachnan., lyc., sec. cor., verat. alb.
Flames of light: Thuja, mostly yellow.
Flashes of light before E.: Bell., chin. sulph., cina, gels., nat. carb., dazzling; nux v., phos., physostigma, thuja, zinc., zinc. ph.
—— like lightning in E.: Glon., nat. carb., sil., valerian.
Flashing of fire: Puls., — as if slapped in the face.
Flesh, like a lump of red: Arg. nit., carun.; lach.
Flickerings before E.: Acon., make him anxious, fears he might touch people passing by; æscul. hipp., agar., anac., ant. t., arn., ars., borax, calc. c., carb. v., cham., graph., ign., white — on one side of field of vision; kobalt., *lach.*, black, that seem very near; —; R. E.; as from threads or

rays of the sun; peculiar zigzag figures; lyc., phos., senega, sep., sil., *sulph.*, therid. cur., in frequent paroxysms, even when closing E., thuja.

Flies seem to float before E.: Sulph.

Focal distance changes: Agar., — first grows shorter, then longer.

Forced out of head, as if E. would be: Bry., lach., when throat is pressed on; ledum, merc. cor.

Foreign body in E., as if: Apis, berb., calc. c., calc. ph., always felt if it is mentioned; caps., cepa, causes a gush of tears to wash it out; fluor. ac., ign., ext. cth.; mephit., merc. sol., as of a cutting substance beneath L. U. L.; nat. mur., psor., when L. closed; puls., staph., hard — beneath L. U. L.; sulph., between margins toward ext. cth.; —; thuja.

Fulness, sensation of: Apis, inside of E. B.; arg. nit., L.; gels., L. E.; nux mos., sulph., verat. vir.

Fungus hæmatodes: Calc. c., cornea; sep.

—— oculi: Phos.

Give out, E.: *Nat. mur.*, phos.

Glass were in E., as if spiculæ of: Sulph., — and drawn toward pupil.

Glassy E. B.: Hell., opium, phos. ac.

Glaucoma: Asaf., ars., bell., bry., eserine, locally; gels., phos., rhodod., spig., sulph.

Glazed E.: Sec. cor.

Glistening skin: Sil., over R. lach. sac.

Glimmering before E.: Cann. ind., kalmia.

Glossy: *Nat. mur.*, skin around E.

Glued together, L.: Agar., ail. gl., alum., amm. m., ant. cr.,

apis, ars., aur., bary. c., borax, L. E.; bovis., bry., calc. os., caust., cham., chelid., clem., dig., duboisin, cup. perf., euph., gambog., graph., hell., hep., ign., kali b., kreos., ledum, lyc., magn. c., merc. precip. rub., merc. sol., nat. mur., nat. sulph., phyto., puls., rhus t., sep., sil., stann., sulph., thuja, zinc.

——, as if: Merc. sol., E. B. to L.

Granulations: Acon., acute aggravations; alum., chronic — L.; arg. nit., bright red, L.; kali b., locally; L. slight —; merc. precip. rub., L; merc. prot., nat. mur., L.; chronic —; nat. sulph., large, blister-like —; petrol., phyto., puls., rheum., U. L.; sang., sep., thuja, when granules are wart-like; blister-like; zinc., after ophthal. neon.

Grayish: Apis, cornea.

Gritty feeling in E.: Bell.

Gum in E.: Agar., — cth.; ant. c., do.; calc. c., during day, full of —; psor., puls.

Gummata: Aur., cinnab., merc. sol. and thuja, — on iris.

Hair follicles destroyed: Staph.

—— hung over E. and must be wiped away, as if: Euph.

—— were before E., as if: Alum.

—— —— in E., as if: Bry., puls., sang.

——, loses: Hell., eyebrows.

——, wild: Graph.

Halo around the light: Alum., yellow; anac., bell., — parti-colored, red predominating; at times light seems broken into rays; calc. c., —; red and green; cyclam., ipec., blue and red; lach., in evening a bluish-gray ring, six inches in diameter; bright blue ring — beautifully filled with fiery rays; nitrum, rain-bow colors; phos., phos. ac., ruta

and sep., green; sulph., verat. vir., green circles around candle-light, which turn to red.

Hangs down, L.: Alum., U. L., especially L. L.; graph., L. L. L.; opium, spig.

Hard: *Acon.*, especially U. L.; L.; nit. ac., L.; *phyto.*, L.; spig., U. L.

——, as if: Spig., U. L.

Hazy: Arg. nit., cornea; *aur.*, cornea; vitreous; aqueous; *cann. sat.*, cornea; gels., vitreous; hep., cornea; kali b., kali hyd., vitreous; merc. sol., prunus spin., vitreous; psor., vitreous; pilocarpine (?), vitreous.

Healing of an ulcer, like the: Puls., int. cth.

Heat: *Acon.*, dry —; apocy. can., L. E.; arg. nit., L. E. B.; aur., violent —; bell., calc. c., L.; cann. ind., *canth.*, as from coals; cham., cyclam., duboisin, graph., about the L. —; jaborandi, kali b., kreos., —; burning —; lil. tig., L. and E.; mang. acet., mephit., merc. sol., *nat. mur.*, phos., puls., ranun. bulb., *ruta*, sep., margins; sil., sulph., tabac., thuja, much — above and around E.; verat alb.

Heavy-ness: Æscul. hipp., agar., L.; arum tri., U. E. L.; arg. nit., over E.; atropia, L.; bell., L.; bry., L. U. L.; carb. v., as from a weight; caust., —; L.; U. L.; comocladia, con., fluor. ac., above E; gels. and graph., L.; kali b., U. L., on awaking; merc. peren., L.; nat. carb., U. L.; nat. mur., L.; nat. sulph., L., as if leaden; nux mos., L.; podo., rhus t., L.; sep., painful — U. L.; L.; spig., L.; spong., pressing — L.; sulph., sulph. ac., E. B.; L.; verat. alb., L.; verat. v.

Heavy look of E.: Gels.

Heavy weight, as if on E.: Carb. v., con.

Hemeralopia, (see "Vision, cannot see in the dark.")

Hemiopia, (see "Objects, only half seen.")

Hæmorrhage: Arn., into ant. chamber; corrects tendency to sub-conjunctival —; bell., — in maculæ; carb. v., cham., crot. hor., intra-ocular —; retinal —, especially non-inflammatory; hamam., hastens absorption; — into ant. chamber; lach., intra-ocular; ledum, merc. cor., nux v., — in conj.; phos., favors absorption; — in different layers of retina, or even into the vitreous; pilocarpine (?).

Herpes: Nit. ac., pannus.

Hordeolæ: (see "Styes.")

Hot: Acon., L.; arn., L.; ars., calc. c., calc. ph., L.; china, crot. tig., duboisin, lyc., mezer., nux v., as if — water in E.; opium, phyto., tarsal edges; sep., ustil., E.

Hydrops retinæ: Apis, relieved —.

Hyperæmia: *Acon.*, conj.; *bell.*, (choroid); bry., cact. gr., retina and optic nerve; (especially the fundus); *duboisin*, fundus of E.; chronic — palp. conj.; retina; gels., conj.; macrotin, conj.; iris; choroid; and retina; due to prolonged exertion of myopic or hypermetropic E.; merc. peren., opium, conj. and margins; phos., retina; *podo.*, conj.; puls., choroid; optic nerve and retina.

Hyperæsthesia: Bell., retina; con., —; retina; gels., ign., retina; lact. ac., nat. mur., nux v., zinc. and zinc. ph., retina.

Hypermetropia, or over-sight: Arg. nit., calc. c., caust., duboisin, gels., lil. tig., phos.

Hypopion: Calc. hypoph., graph., hep., merc. cor., merc. nit., merc. sol., plumb., after iritis; rhus t., sil., sulph., thuja.

Illusions, optical: Acon., dark colors or black; amm. c., in white or bright colors; anac., in dark colors; aur., bright

colors, also cina; hyos., small objects seem very large; iod., bright colors; stram., in colors, often dark; less often blue or red.

Images retained, retinal: Nat. mur.

Immovable E.: Opium, sec. cor., look as if —.

—— L.: Sec. cor., after erysipelas; spig., U. L. as if —.

Inclination to rub or touch E. constantly: Apis, caust.

Indistinct outline of disc: Duboisin.

Indurations: Calc. c., L.; con., L.; merc. cor., L.; merc. oxyd. flav., slight —.

Infiltrated: *Arg. nit.*, conj. occuli and palp.; *ipec.*, cornea as if —; ocul. conj.; kali hyd., conj.; phyto., cellular tissue of orbit is very pronounced, —; hard and unyielding to the touch; spig., cornea; around ulcers; terebinth., into cellular tissue of orbit.

Inflam-ed-mation: Acet. ac., conj.; *acon.*, E. margins; lach. sac.; catarrhal; æthu. cy., margins; ail. gl., conj., toward ext. cth.; agar., little appearance of —; alum, — conj.; amm. c., ant. c., —; L.; cth.; ant. t., apis, with dreadful pains shooting through E.; — following eruptive diseases; arn., L.; E.; conj.; *ars.*, margins; conj.; bapt., bary. c., scrofulous; bell., erysipelatous —; L.; optic nerve and retina; borax, L. E.; int. cth.; R. ext. cth.; — from curved cilia, especially at ext. cth.; bovis., L.; bry., acute — of occul. and palp. conj.; calc. c., superficial —; margins; conj.; *cornea;* scrofulous; calc. iod., scrofulous; E. and L.; calad., cth.; calend., traumatic —; caust., scrofulous; cham., superficial —; chin. sulph., optic nerve; cinnabar., clem., sclera; iris, int. cth.; coccul., L.; colch., *con.*, superficial —; cornea; crot. tig., conj.; cup. alum, L.; cup. met., dig., meibomian glands; duboisin, optic nerve; euph.,

rheumatic, almost blinding him; margins; meibomian glands; ferr., fluor. ac., as if —; gels., — of uveal tract; serous; iris; choroid and ciliary body; *graph.*, very — margins; L. L.; int. cth. painful, red —; ext. cth; hamam., less —; —; *hep.*, E., and L; lach. sac.; U. L; acute phlegmonous — L.; ciliary body; *ipec.*, —; pustulous — cornea and conj.; kali b., — conj. much —; kali c., R. E. L.; *kali hyd.*, sclera; lach. sac.; kreos., slight — meibomian glands; lyc., magn. c., magn. m.; mephit., E. and L, especially right side; *merc. cor.*, —; scrofulous; L., which are red as in erysipelas; merc. iod., glands; merc. prot., pustular — cornea and conj.; merc. sol., E.; lach. sac.; superficial — cornea and conj., ulcerative; phlyctenular; catarrhal; interstitial — of cornea; mezer., E.; L.; nat. carb., L.; nat. mur., sclera; E.; nit. ac., nux v., paris quad., petrol., margins; phos., retina; phyto., psor., L.; R. E.; old recurrent pustular — of cornea and conj.; severe forms of —; — of uveal tract; *puls.*, margins L. L.; sclera; most in cth., now in one, and now in the other; early stages of acute phlegmonous dacryo-cystitis; glands of L.; optic nerve and retina; *rhus t.*, ciliary body and choroid; L.; rumex c., sang., glandular — L.; sep., sil., E.; lach. sac; sclera; spig., L.; stram., *sulph.*, cornea and conj.; pustular —; — E. and L.; painful —; syphil., chronic recurrent phlyctenular — cornea; thuja, — sclera; cornea, softening of inner surface of L.; valerian, margins; zinc., R. E. conj.; E.; — more in int. cth.

Inflammation, chronic: Alum, L.; camph., euph., dig., conj.; kali b., —, indolent forms; rhus t., L.; sulph., sulph. ac.

——, threatened: Sulph., E.

Injected: Apis, conj. full of dark vessels; Aur., sub. — conj. vessels; bell., conj., ocul. and palp.; camph., *cann. ind.*, conj., both E. extending from int. cth. to cornea; crot. tig., ciliary; euph., conj.; glon., hamam., ipec., ocul. conj.; kali b., ocul. and palp. conj.; kali hyd., vascular; *ciliary;* mezer., ocul. conj. very much —, especially in vicinity of ext. cth.; ciliary; nux v., conj. painless — of whites; opium, puls., conj.; sang., superficial — E. B.; sec. cor., conj.; sep., especially L. E.; sil., conj. and sclera; stram., terebinth., variable, deep ciliary; thuja, cornea.

Insects before E., as if swarms of: Caust.

Insufficiency of: Cup. acet., and rhodod., int. recti muscles.

Intense pain: Chin. mur.

Intermittent pain: Asaf., atropia, lasting perhaps ten minutes and disappearing for fifteen minutes; china, chin. mur.

Inverted lids: (see "Entropium.")

Irido-choroiditis: Asaf., bell., bry., gels., hep., kali iod., merc. cor., dulc. and prot., rhus t., sil.

—— cyclitis: Prun. spin.

—— keratitis: (see "Kerato-iritis.")

Irritable: Jaborandi, — ciliary muscle; — weakness; nat. mur., margins and then conj.; sep., E.

Irritation of: Bell., con., physostigma, *spig.* and zinc. ph., ciliary apparatus.

Iritis: Acon., atropia, aur., bell., bry., calc. hypoph., china, clem., con., gels., hep., kali b., nat. salicyl., nux v., rhus t., spig., in children; sulph.

——, parenchymatous: Hep.

——, rheumatic: Arn., bry., euph., merc. sol., rhus t., spig., terebinth.

Iritis, serous: Ars., gels.

——, suppurative: Hep., rhus t.

——, syphilitic: *Asaf.*, ars., *aur.*, cinnabar, clem., kali b., *kali iod.*, merc. sol., merc. cor., *merc. prot.*, nit. ac., petrol., staph., sulph., thuja, zinc.

——, traumatic; Acon., *arn.*, bell., calend., hamam., *rhus t.*

Itching: Acon., agar., int. cth.; L.; E. brows; agn. cas., corrosive — over and on E. brows, L., and below E.; alum, at int. cth.; cth.; L.; ambra, — on L. as if a stye was forming; amm. c., margins; ant. c., arg. met., violent — in cth; arg. nit., especially in cth.; aur., int. cth.; bary. c., calc. c., L.; E.; cth.; carb. v., about E.; margins; caust., E., especially L.; L. L. and its inner surface; cepa, worse L. E.; cinnabar, R. E.; croc., U. L.; cup. met., euph., E.; L.; margins; fluor. ac., cth.; gambog., int. cth.; E., violent —; graph., int. cth.; L.; kali b., L.; kalmia, kreos., L.; margins; lyc., E.; cth.; mephit., merc. cor., mezer., margins; mur. ac., cth.; nat. mur., E.; int. cth.; violent — L. int. cth.; nat. sulph., margins; nux v., E.; margins; petrol., L.; phyto., psor., L.; cth.; *puls.*, L. int. cth.; rhus t. L. E.; ruta; int. cth.; L. L.; selen., margins; E. brows; sep., great — margins; spig., R. E. B.; stann., int. cth.; *staph.*, L. U. margin; *sulph.*, E. brows; cth.; margins; E.; L.; tellur., L.; L. U. L. the worst; *zinc.*, int. cth.; violent — L. E.

Keratitis: Apis, ars., bell., duboisin, graph., ipec., kali iod., kreos., nux v., merc. cor., merc. nit., merc. sol.

——, catarrhal: Euph.

——, interstitial: Aur., bary. iod., calc. c. cann. ind., merc.

Keratitis, parenchymatous: Apis, ars., aur., bary. iod., calc. ph., cann. ind., cinnabar, hep., kali mur., merc. sol., sep., sulph.

——, phlyctenular: Bary. iod., lach., puls., sep.

——, pustular: Apis, cann. ind., crot. tig., sil.

——, suppurative: Eserine, rhus t.

——, traumatic: Acon., arn., hamam.

——, with ulcers: Apis, arg. nit., asaf., hep., kali b., merc. prot., sil., thuja.

——, with superficial ulcers: Bell., canth., con., cundurango, euph.

Kerato-iritis: Arg. nit., ars., asaf., aur., cinnab., clem., hep., merc. cor., merc. sol., sulph.

Kopiopia hysterica: Act. rac., badiago, ledum, galvanism, lil. tig., nat. mur., sep.

Knife cutting, like a: Spig., margin L. L. L.; sulph., R. E.

Knives sticking, like: Lach., spig., through E. B.

Lachrymation: Acet. ac., acon., profuse; æscul. hipp., alum., ambra, amm. c. and m., ant. c. and t., much; apis, profuse; arg. nit., *ars.*, arum tri., in E., all day, most at ext. cth.; asar. eup., aur., constant; bapt., slight; bell., berb., closing the E.; brom. and bry., R. E.; frequent; calc. c., camph., cann. ind., canth., caps., caulo., profuse; caust., even in warm room; cepa, profuse, bland; especially L. E.; cham., chelid., looking at bright spot; profuse; china, chin. sulph., cinnabar., clem., colch., colocy., profuse; con., crot. tig., copious; dig., eup. purp., during fever; euph., increased; ferr., fluor. ac., increased; gels., graph., much; chronic; hep., profuse; also hydras.; hyos., R. E.; ign., ipec., opening R. L.; great gush of —; iris v., kali

b., kali c., kali iod., kobalt., kreos., profuse; lachnan., violent; ledum, lil. tig., E. full of tears; magn. c., profuse; magn. m., merc. iod., merc. sol., profuse; mezer., millefol., nat. mur., nitrum, nux v., oleander, petrol., phyto., abundant; plumb., psor., *puls.*, ranun. bulb. and scel., rhus t., profuse; of long standing, with no apparent stricture of lach. duct; ruta, profuse; E. becomes full of tears and runs 1½ hours; sabad., sang., copious; senega, sep., sil., spig., profuse, with or without pain; spong., stann., staph., constant; sulph., syphil., terebinth., tellur., thuja, ustilago, profuse; verat. alb., zinc.

Lachrymation, acrid: Alum., apis, ars., aur., calc. iod., con., euph., ign., kreos., like salt water; ledum, makes L. L. sore; lyc., marum v., *merc. cor.*, *merc. sol.*, *nat. mur.*, nat. sulph., nit. ac., rhus t., sang., sil., spig., staph., L. E.; zinc.

——, absent: Alum., — predominates; bell., duboisia.

——, constantly coming into the E., feeling as if: Croc., lil. tig.

——, excoriating: Ars., nat. mur., cth.; L.

——, not excoriating: Apis, arg. nit., cepa.

——, hot: (see Lachrymation, acrid).

——, irritating: Nit. ac.

——, scalding: (see Lachrymation, acrid).

——, spirts out of E.: Apis, ipec., rhus t.

——, suppressed: Sec. cor.

Lameness: Bapt.

Lancinating pain: Apis, graph.

Large, E. feels too: Calad., comocladia —; R. E.; mezer., nat. mur., E. B.; opium, for the orbits; paris quad., phos. ac., *phyto.*, plumb., rhus t., L. E.; spig., sulph., thuja.

Lasts a short time, pain: Ferr., L. eyebrow.

Lax: Spig., L.

Letters seem blurred: Mephit., ox. ac.

—— —— double: Graph., when writing.

—— —— gray: Sep.

—— —— pale: China, sil.

—— —— red: Phos., when reading.

—— —— smaller: Glon.

Letters seem to disappear: Cicut. v., jaborandi, at two feet, are indistinct.

—— —— —— go down: Cicut. vir.

—— —— —— —— up: Cicut. vir.

——, colors of rainbow around them: Cicut. vir.

—— run together while reading: Arg. nit., bry., calc. c., camph., cann. ind., dros., ferr., graph., kobalt., mephit., merc. peren., *nat. mur.*, ruta, senega, sil., and appear pale.

——, surrounded with: China, — white borders.

Lids open and shut, in quick succession: Agar.

Lift L., can scarcely: (see Raise the Lids, etc.).

Light, aversion to: Acon., ail. gl., amm. c., anac., ant. c., apis, arg. nit., arum tri., bapt., bary. c., con., without inflammation; eup. perf., graph., hep., kali c., *merc. sol.*, even in a dark room; nitrum, *nux. v.*, phos. ac., psor., samb. nig., stann., *sulph.*

——, dazzles: Acon., graph., lith. carb., phos. ac.

——, seems dimmer: Croc.

——, insensible to: Arg. met., bell., hell., lyc.

——, sensitiveness to: Apis, arn., calc. ph., cann. ind., R. E.; E.; cepa, L. E. especially; chin. sulph., cicut. vir., clem., euph., gels., ign., lach., lil. tig., lith. carb., lyc., merc. peren., nat. sulph., nit. ac., puls., sep., sulph., therid. cur., zinc.

Livid: Nit. ac., L.; verat. alb., L.; margins.
Look, anxious: Aloe.
——, dazed: Sec. cor.
——, disturbed: Hyper.
——, fixed: Sec. cor.
——, lifeless: Kreos.
——, staring: Nux mos., phos. ac.
——, startled: Ail. gl., when aroused.
——, unsteady: Aloe.
——, vacant: Hell., mezer.
——, as after weeping: Marum v.
——, wild: Sec. cor.
Looked too long, as if one had: Ruta.
Looking at moving objects: Jaborandi, — nausea.
—— —— — a spot for some time: Lachnan., sees grey rings; — it becomes dark; cicut. vir., — and cannot help it.
Loss of power: Alum, U. L.; int. rect. mus.
Lump in E., feeling as of a: Sulph. ac., R. ext. cth., on closing E. seems to move to int. cth., and return on opening.
Lustre, without: Bovis., carb. v., cup. met., stann., verat. alb.
Maculæ: Calc. c., cornea; nat. sulph., locally.
Malignant ulcers: Phyto., L.; — as lupus; epithelioma have been ameliorated.
Matter in E.: Sulph.
Mechanical hindrance, sensation of: China.
Membrane, false: Acet. ac., — is dense, yellow-white, tough, and so closely adherent that removal is almost impossible; kali b., — is loosely attached, easily rolled up, and separated in shreds or strings.
Moist: Ant. c., L.

Motes before E.: Nux mos.

Motion of E. B.: Bell. and iod., — constant; phyto., — impaired or lost entirely.

—— —— one E. independent of the other: Phyto.

Move from side to side: Cup. met., E. B.; gels., E. — laterally when using them.

Mucus in E.: Ant. c., in cth.; arg. nit., —; must constantly wipe — away; bism., thickened — cth.; hep., hardened — ext. cth.; nat. mur., sang.

—— hanging before E.: Puls.

—— on lashes: Graph., dry —.

Muscæ volitantes: (see "Opacities of the Vitreous.")

Mydriasis: (see "Pupil does not react to light.")

Myopia: Agar., anac., carb. v., con., graph., hyos., obliged to hold book nearer than usual; mang. acet., nit. ac., phos., rapidly increasing — has been checked by it; phos. ac., sulph.

Nail were driven in, as if a: Thuja, L. frontal eminence.

Narrowing of space between E.L.: Agar.

Near-sight: (see "Myopia.")

Needles going through E., pain as from: Bry., — and head; caust., eup. perf., mephit.

Neuralgia: Act. rac. and amyl nit., ciliary; arg. nit., infra-orbital; arn., asaf. and atropia, ciliary; commencing under L. E. and running back to ear; bell., especially infra-orbital; ciliary; bry. and cact. gr., ciliary; carb. ac., supra-orbital —; over R. E.; cedron, chiefly supra-orbital; cham., ciliary; chelid., above R. E., E. brows and temples; with profuse tears; chin. mur. and chin. sulph., infra- and supra-orbital; cinnabar, galvanism, ign., merc. sol.,

mezer., (especially after operations on the E.); nat. mur., (pain above the R. E., coming and going off with the sun); nat. salicyl., plant. maj., *prun. spin.*, rhodod., sang., (in and over R. E.); sil., spig. and terebinth., ciliary; zinc.

Nictitation: *Agar.*, alum., dependent on enlarged papillæ of conj.; ign., morbid —; nux v., (see Spasmodic motion, etc.).

Nodosities: Staph., E. L., one after another; — results of styes.

Numb pain: Sep., int. eth.

Nyctalopia: (see "Vision, blindness during day.")

Nystagmus: Agar., bell., cicuta, hyos., ign., jaborandi, physostigma.

Objects appear too BRIGHT: Camph.

—— —— DIVIDED horizontally: *Aur. met.*, dig.

—— —— —— perpendicularly: Calc. c., caust., *lith. carb.*, right half invisible, also lyc.; each E.; worst R. E.

—— —— BLACK: Caps., cicut. vir., kalmia, phos., psor.

—— —— to become CONFUSED, looking at them: *Nat. mur.*, physostigma.

—— —— COVERED with: Nat. mur., a thin veil; phos., a gray veil.

—— —— to DANCE: Glon., with every pulsation.

—— —— very DISTANT: Nux mos., ox. ac., sulph.

—— —— to have a FIERY look: Nat. mur., nitrum.

—— —— GREEN: Cyclam., dig.

—— —— HAZY: *Jaborandi*, at a distance.

—— —— INVERTED: Bell.

—— —— LARGER than natural: Æthu. cy., hyos., —; — with one E.; lauroc., nat. mur., looking down, rather than forward; nux. mos., ox. ac.

Objects appear MIXED: Physostigma.
—— —— too NEAR: Bovis., hyos.
—— —— to come NEARER: Cicut. vir.
—— —— RAIN-BOW colored: Bry., con., nitrum, phos. ac.
—— —— to RECEDE: Cicut. vir.
—— —— RED: Bell., con.
—— —— to REVOLVE: Bell., — and run backward.
—— —— RUN TOGETHER: Calc. c.
—— —— SHADED; Senega.
—— —— SMALLER than natural: Hyos., — with one E.; merc. cor., plat.
—— —— STRIPED: Con.
—— —— to TREMBLE: Psor., for a few moments.
—— —— —— VANISH: Nux mos.
—— —— YELLOW: Alum., canth., cyclam., dig., kali b.
—— —— with ZIGZAG appearance around them: Nat. mur.
——, see only ONE-HALF of them: *Aur. met.*, upper half of field of vision appears covered with a black body; glon., half light and half dark; lith. carb., left half; lob. inf., lyc., left, distinctly; mur. ac., nat. mur., sep., the other half is obscured.
Œdematous: Acon., conj. mostly near int. cth.; *Apis*, L. with bag-like swelling under E.; conj.; non-inflammatory; arg. nit., L.; arn., L.; *ars.*, first the U. L. then L. L.; non-inflammatory; duboisin, L. slightly; graph., iod., L.; kali b., kali c., kali. hyd., merc. cor., L.; phyto., L.; *rhus t.*, L.
Old, E. suddenly become: Lach.
Onyx: Merc. sol.
Opacities, corneal: Apis, arg. nit., *aur. met.*, bary. c., calc. c., chelid., colch., crot. tig., cup. alum, locally; cuph., hep., hydras., kali b., merc., — around ulcers; sil., sulph.

Opacities of vitreous humor: Lyc., merc. prot., prun. spin., senega.

Open and close in quick succession: (see "Lids open and close," etc.).

Open, E.: Hyos., spig., sees a sea of fire; stram.

——, E. half: Colch., samb. nig., in sleep; also stram.

Open L., cannot: Alum, amm. c., even though awake; coccul., gels., graph., hyos., lyc., even on rubbing, in morning; merc. peren., on waking at night; petrol., psor., lies on its face; samb. nig., sec. cor., after facial erysipelas.

—— difficult to: Ambra, arg. nit., atropine, caust., chelid., ferr., gels., hep., kali b., on waking; kobalt, as if strings held L. together and snapping; merc. peren., on waking at night; merc. sol., nat. carb., nit. ac.

——, can scarcely: Psor., merc. cor., spig.

——, —— —— keep them: Cinnabar.

Opened by force, as if: Fluor. ac., L.

Oppression: Crot. hor., above E.

Ophthalmia: Arg. nit., intense pain; aur., bapt., bell., R. E.; cup., cup. sulph. and sulph., chronic —; plumb., psor., sarsap.

——, catarrhal: Ars., euph., phyto., sang., senega.

——, gonorrhœal: Acon., nit. ac., puls.

——, neonatorum: Apis, ars., calc. c., cham., euph., merc. cor., merc. precip., merc. sol., nux v., puls., rhus t., sulph., zinc.

——, purulent: Calc. c., cham., euph., hep., merc. sol., puls.

——, pustular: Ipec., merc. dulc., merc. sol.

——, rheumatic: Graph., puls., spig., staph., verat. alb.

——, scrofulous: Ant. c., ant. t., æthu. cy., ars., bell., calc.

c., cham., dulc., euph., graph., hep., hydras., merc. cor., merc. dulc., merc. precip. rub., petrol., podo., puls., rhus rad., sulph., tellur., L. U. L. worst.

——, syphilitic: Phyto.

Oscillation of E. B.: (see "Nystagmus.")

Oversensitive: Spig., retina.

Pain: Acon., pressive; shooting; tearing; violent; intense; act. rac., intense — E. B.; severe in center of E. B.; over E.; over L. E.; as if pain between E. B. and orbital plate of frontal bone; aloe, deep in orbits, as if in muscles; worse on R. side; alum, — as if E. had been closed too firmly; L. int. cth.; ant. t., E. B.; apis, shocking, over R. E. extending down to E. B.; stinging; arg. nit., E. B.; pain through E. like darts; arn., U. L. margins; ars., sub-orbital — L. side; R. E. B.; margins; asaf., throbbing — in and around E. and head; aur. met., from within outward; around E.; badiago, E. B., — extends to temples; bell., optic nerve; deep-seated — in back of E.; severe in orbits; bry., deep in R. orbit; calc. ph., E. B. as if beaten; carb. ac., slight — over R. E. brow; carb. v., muscles of one E.; caust., cedron, — across E. from temple to temple; cepa, thread-like — over R. E. toward root of nose; or from cheek toward E.; *chelid.*, E. B.; cinnabar, from L. int. cth., across E. brow; from R. lach. duct, around the E. to temple; clem., colocy., comocladia, R. E., severe; croc., E. to vertex; crot. tig., violent; in and around E.; supra-ciliary; cundurango, duboisin, E. B., just beneath brow; euph., in E. and abdomen alternating; gels., above E.; hamam., — under the slightest pressure; *hep.*, severe in bright day-light; ign., extends from head to L. E.; under

U. L.; jaborandi, kali c., deep in E.; kali iod., intense; kalmia, kobalt., lach., in and above E. or near; ledum, severe; lil. tig., intense; extends back into head; sharp over E.; lith. carb., over E., sore —; lyc., troublesome —, if E. gets dry; mephit., *merc. cor.*, severe in and around E.; merc. nit., *merc. peren.*, merc. prot., merc. sol., severe in and around E.; nat. mur., over the R. int. rect. mus.; *nat. salicyl.*, severe in and around E.; nit. ac., region of E.; nux v., severe; margins; int. cth.; cth.; E. brows; ox. ac., in both orbits, worse in left; phos., dull —, deep in E.; phyto., circumorbital, not severe; physostigma, prunus spin., R. E. B.; as if inner portion of E. would be torn out; psor., so she can scarcely open E.; over E. brows; ranun. bulb., R. E. B.; ranun. scel., E. B.; rhus t., in and around E.; rumex, ruta, slight, R. E.; sang., over E.; in E.; locally; sarsap., sec. cor.; sep., L.; sil., spig., U. L.; superciliary ridge and around E.; sulph., L.; E. B.; violent, L. E.; syphil., *terebinth.*, severe, excessive and always present; as if it would almost drive the patient crazy; in, over and around E. through to occiput, or corresponding side of head, following supra-orbital nerve; thuja, severe; L. frontal eminence; zinc.

Pain, coming and going: Bry.

Painless: Apis, affections — at first generally.

Painful sensation: Calc. os., mang. acet.

Pannus: Acon., acute aggravations; alum exsic., arg. nit., aur., calc. c., cann. sat., carb. ac., locally; caust., chin. mur., cup., cup. sulph., euph., hep., if tending to ulceration; kali b., kali c., always worse after seminal emissions; merc. peren., merc. prot., with ulceration; merc. iod.,

merc. precip. rub., chronic; nat. mur., nit. ac. nux v., petrol., rhus t., sep., sulph., —; herpetic.

Paralysis: Acon., ciliary mus.; arn., traumatic; muscles; aur., muscles; bovis., optic nerve; caust., U. L., muscles; con., external muscles, partial —; great reflex irritability; cup. acet., L. nervus abducens; dulc., U. L.; euph., galvanism and gels., muscles; gels., nerves; condition is one of stolid indifference to external irritants; — following diphtheria; kali iod., muscles; merc. prot., oculo-motor nerve; nit. ac., U. L.; nux v., muscles; paris quad., iris and ciliary muscle; plumb., U. L.; rhus t., muscles; sang., sec. cor., U. L.; senega, muscles; spig., L.; sulph., R. nervus abducens; verat. vir., L.

——, as if: Alum, U. L., especially L. L., merc. peren., L.; opium, L.; rhus t., L.; zinc., U. L.

Paroxysms of: Sil., pain; therid. cur., flickerings before E.

Periodical: Ars., commencing every fall; asaf., burning; cact. gr., weakness of sight; cham., china, chin. mur., chin. sulph., nat. mur., pain coming and going with the sun; prun. spin., pain; rhodod., dry burning in E.

Periostitis: Kali iod., of orbit.

Photophobia: (see also, "Light, aversion of"): Acon., æthu. cy., chronic; alum, ant. c., morning; ant. t., apis, ars., aur., bell., intense; bry., calc. c., calc iod., great; calc. ph., well-marked; caust., calend., little or no —; cham., cinnabar, china, con., excessive; crot. tig., intense; cundurango, duboisin, not severe; euph., must remain in darkened room; gambog., gels., glon., *graph.*, usually more for gas-light; hep., intense; hell., without inflammation; ipec., great; kali b., only by daylight; kali c.,

kali iod., variable; lach., marked; ledum, lyc., macrotin, *merc. cor.*, *merc. dulc.*, merc. prot. and merc. sol., generally excessive; merc. nit., merc. precip. rub., usually great; nat. carb., shocks the E.; nat. mur., marked; nat. sulph., *nux v.*, excessive; phyto., plumb., psor., *rhus t.*, great; sec. cor., sil., long-lasting; spig., sulph., great; syphil., intense; terebinth., thuja, verat. alb., verat. vir., zinc.

Phlyctenulæ: Bary. c., calc. c., calend., cann. ind., euph., *ipec.*, merc. cor., puls., sulph., syphil., recurrent; thuja.

Piercing pain: Millef., — inward; *prun. spin.*, (see "sharp pain"); sil., sudden in L. E.

Pimples: Alum, L.; merc. cor., around E. like small boils; sulph., inflamed — above L. E. brow; U. L.; thuja, margin L. L.

Pins sticking in E., as if: *Sulph.*

Points flying before E: Amm. m.

Polypi: Kali b., int. and ext.; staph., conj.

Presbyopia: Arg. nit., bell., calc. c., dros., hyos., spig.

Press L. together, inclination to: Ant. t., tightly; asaf., chelid., con., croc. sat., from time to time; *euph.*

Pressed asunder, as if: Asar. eup., each E.; *prun. spin.*

Pressed down, L.: Chelid., L. U. L.; con., ferr., hell., as if —; spig., U. L.

Press-ure-ing: Acon., U. L.; agar., L. E. B.; E. B.; alum, ambra, anac., on E. B.; apis, lower part E. B.; arn., (L.) E. brow; asaf., external border L. orbit; aur., bary c., deep; bell., — head; berb., bism., R. E. B., from below backward, and from below upward; calc. c., caust., cham., violent in orbital region; china, colch., cth.; colocy., painful — E. B.; con., crot. hor., above E.; cyclam., L.; euph., —;

cutting — ; stitching — ; graph., L.; hep., kali b., kali c., kalmia, R. E.; also above R. E.; lach., lob. inf., upper half of E. B.; mang. acet., merc. sol., mezer., mil lef., — to root of nose, and side of head; *nat. mur.*, R. E.; E.; nat. sulph., nit. ac., nux v., U. L.; phos. ac., ranun. bulb., ranun. scel., painful — E. B.; sep., R. E.; E.; spig.

Pressing outward: Acon., asaf., ulcer of cornea; aur., cann. sat., comocladia, hamam., ledum, nat. mur., one E.; nux v., phyto., E. B.; spig., E. B.; thuja.

Pressive pain: Aur., R. E. B. or in orbit from above downward; bry., above L. E.; sensitive — L. E. B.; caps., caust., chelid., over L. E., which seems to press down U. L.; colocy., E. B.; cup. met., ferr., as if E. would protrude; worse R. E.; glon., graph., hep., E. B.; lachnan., L. E. B. from below upward; lyc., mezer., most in L. E.; above L. E.; nat. mur., above E. brows; nux v., psor., puls., int cth.; L. E.; E.; ranun. bulb., E. B.; sometimes one, and sometimes the other; rhus t., L. L. L.; E.; spig., intolerable in E. B.; stann., int. cth.; zinc., int. cth., root of nose and supra-orbital region:

Pressure ABOVE E.: Kali c., ruta.

—— AROUND ——: *Phyto:*

—— BEHIND ——: Caulophy., fluor. ac., as if — R. E. B.

—— from above DOWNWARD: Spig., L. orbit.

——, DRY: Euph:

——, INWARD: Aur.

——, LESSENED, intraocular: Atropia and eserine, locally.

——, ON the: Acon., E. B.; alum, E.; E. R.; ambra, E.; amm. c., E. L.; anac., like from a plug, on U. margin of orbit; chelid., U. L.; comocladia, on top of E. B., mov-

ing them downward and outward; ruta, inner surface of L. E.; sabad., E. B.; zinc., margin, L. L. L., near int. cth.

—— UNDER: Spig., L.

Pricking pain: Ars., L. side, sub-orbital; aur., kali b., most in L. E.

Prickling in E: Rhus t., and L.; sep., sulph.

Prevents: Hep., — formation of pus.

Prominent: Bell., E. B.

Protruding: Acon., æthu. cy., amyl. nit., ars., aur., E. B.; bell., canth., coccul., comocladia, R. E.; glon., guaiac., hep., in croup; hyos., — R. E.; iod., kreos., opium, paris quad., spong., stram., verat. alb.

Pterygium: Arg. nit., cann. sat. (?), chimaphilla, nux mos. *ratanhia*, tellur., *zinc.*

Ptosis: Con., *gels.*, rhus t., spig., stann., from sympathetic paralysis, the disease returned every Tuesday.

Puffiness: Apis, conj.; bell., L.; bry., R. U. L.; kali b., sclera; marum v., rhus t., L.; sulph. L.

Puffed out: Lyc., L. with pus.

Pulled back into head, as if: Hep., *paris quad.*

—— tight over E., as if something were: Phos.

Pulsations: Ars., cina, superciliary muscles; Rheum.

Pus: Merc. sol., between corneal layers; ranun. bulb., in cth.

Pushed into the orbit, as if: Acon.

Pustules: Ant. c., cornea or conj.; margins; arg. m., margins; calc. iod., particularly on cornea; cham., cornea; con., cornea; crot. tig., cornea and conj.; L.; euph., cornea; conj.; graph., cornea, reddish appearance, with white halo around; conj.; hep., conj.; if cornea is involved; kali b., small

white — in conj.; L.; cornea with surrounding indolent inflammation; kali iod., conj.; cornea; no photophobia, pain or redness; lyc., toward int. cth. more; merc. cor., margins; on cheeks and parts around orbits; merc. nit., cornea; mezer., conj.; nat. mur. and nux v., cornea; psor., cornea and conj.; *puls.* and rhus t., conj.; *sep.*, cornea; conj. of L. E.; ciliary border; sil., stann., swelling L. int. cth.; *sulph.*, margin; inflammatory, cornea and conj.

Pupils contracted: Acon., anac., then dilated; arg. met., L. E.; arn., — first twenty-four hours, then dilated; ars., aur., most frequently; bary. acet., quick succession of — and dilatation; bell., calc. c., camph., cann. sat., cicut. vir., — at first, afterward dilated, in spasmodic affections; coccul., — during spasm; dros., — at first, afterward dilated; euph., much —; ferr., glon., graph., hell., hyos., — after spasm; *jaborandi*, mang. acet., much — ; merc. cor., mur. ac., nat. mur., nux mos., opium, phos., physostigma, phyto., plumb., rheum, — later; squilla, stann., terebinth., verat. alb., zinc.

——, contractility diminished: Chelid., colch.

—— dilated: Acon., first contracted; Act. rac., æscul. hipp., contract slowly; æthu. cy., agar., agn. cas., ail. gl., anac., arn., first contracted; ars., bary. acet., (see "contracted"); bell., brom., calc. c., much — ; camph., cann. sat., cicut. vir., in concussion of brain; caust., china, chin. sulph., cina, cocul., after spasm; coffea, colch., much — ; slightly — ; con., croc. sat., cyclam., dig., dros., contracted first, afterward — ; gels., glon., guaiac, hell., hyos., —; during spasm; hyper., iod., ipec., lachnan., lauroc., ledum, mang. acet., much — ; merc. peren., nit.

ac., nux mos., nux v., opium, physostigma, locally; when dependent on loss of power of oculo-motor nerve; rheum, rhodod., sang., sec. cor., generally; sometimes unequally; spig., stram., verat. alb., verat. vir.

—— dilate and contract alternately: Bary. acet., cann. sat., in the same light; hell.

—— immovable: Camph., colch., lauroc., nux mos., opium, stram.

—— irregular: Bary. acet., graph.

—— do not REACT to light: Arn., bell., carb. v., china, cicut. v., merc. cor., opium, rhus t., stram.

—— sluggish: Ail. gl., chelid., china, con., dig.

—— unequal: Sec. cor.

Quivering: Arum tri., L. U. L.; bell., R. U. L.; berb., L.; calc. c., U. L.; camph., U. L.; glon., hyos.

—— before E.; Dros.

Racking pain: Kali c.

Radiating pain: Spig., from E. into the head.

Rainbow colors, appearance of: Bry.

Raise E. EASILY, as if he could not: Caust., con., merc. peren., merc. prot., nit. ac. and spig., U. L., rhus. t., verat. alb.

—— —— with the HAND, must: Spig.

Raw: Arg. met., L., clem., corners of L.; merc. sol., L.; phyto., as if margins; sep., margins.

—— flesh, feel like: Canth., margins.

—— ——, looks like: Lyc., conj.

Read, cannot: Bary. c., calc. ph., caust., without glasses; kali c., by the light; mephit., fine print; nat. carb., small print; nit. ac., by twilight, as long as usual.

Reads with difficulty: Agar., carb. v., must make exertion to distinguish the letters; nux mos., lach., senega.

Red: Acet. ac., L.; *acon.*, E.; vessels deep —; L.; margins; especially U. L.; agar., int. cth.; alum, conj., worse R.; amyl nit., conj.; ant. c., —; L. L.; L.; *apis*, L. dark —; conj.; apocy. can., L. E.; arg. met., L.; arg. nit., —; margins; conj. near int. cth.; — as blood; *ars.*, margins, very —; extreme — of int. surface of L.; aur., sclera; L.; bapt., bary. c., conj.; bell., E. B.; L.; berb., conj.; calc. c., L.; conj.; calc. ph., calc. iod., L.; calend., conj.; caps., caust., L.; cepa, worse L. E.; cham., chelid., conj.; as far cornea; L.; L. L.; china, cinnabar, coffea, con., very slight —; crot. tig., cundurango, cup. met., —; E. B.; dig., yellowish — conj. palp.; duboisin, disc; bright — conj. palp.; eup. perf., margins; euph., margins; L.; ferr., L.; glon., *graph.*, L.; pale — color; sclera; L.; hamam., conj.; hell., E. B.; *hep.*, U. L.; sclera; cornea; conj.; hyos., ipec., conj.; iris v., conj., as from a cold; kali b., —; conj. traversed by large vessels; L.; conj. oc. and palp.; kali c., L.; margins worst; sclera; kreos., conj.; lach., lyc., L.; R. E.; magn. c., magn. m., sclera; marum v., conj.; U. L.; mephit., conj.; merc. cor., L.; conj. ocul. and palp.; merc. dulc., merc. prot., merc. oxyd. flav., merc. sol., variable; U. L.; mur. ac., L.; *nat. mur.*, margins; cth.; sclera; nux v., cth.; opium, paris quad., margins; *phyto.*, — blue L.; plumb., whole E. B.; bluish- — sclera; podo., conj.; ranun. bulb., L. and conj., rhus t., conj.; —; sabad., margins; sang., E.; conj.; sep., sclera, L.; sil., first around E. then in sclera; spig., sclera; spong., staph., conj.; stram., sulph., L.; conj.; intense — E.;

syphil., terebinth., dark —; thuja, sclera; zinc, R. E.; conj.; U. L. toward int. cth.; — after pustular keratitis without any discharge.

Reddish-blue: Phyto., L., worse L. E. L.

Relaxed: Arn., corrects — blood-vessels; rhus t., L.

Rending pain: Hyos., in angles of E.

Retino-choroditis: Arg. nit., aur., exudative —; gels., kali mur., nux v., phos., prun. spin., sulph.

Retinitis: Ars., albuminous; asaf., dubosin, gels., albuminous; kalmia (?), lach., apoplectica; mer. cor., albuminous; hæmorrhagic; apoplectica; phos., albuminous; apoplectica; sec. cor., diabetic; spig., sulph., zinc, acute albuminous.

Retracted, as if into orbit: Bry.

Revolve, E. seems to: Ustilago, — in circles.

Rheumatic inflammation: Euph., almost blinding him.

Rings, before E.: Carb. v.

——, blue around E.: Canth., cup. met.

——, —— —— cornea: Spig.

——, green before E.: Zinc.

——, grey — —: Lach., lachnan., looking intensely.

—— of various colors — —: Phos.

——, yellow — —: Aloe.

Rolling E.: Apis, coccul., constantly — E. about; glon., outward and upward; hyos., — about in orbits; stram., verat. vir.

Rotate: Cup. met., E. B., quickly, with L. closed.

Rotated, as if spasmodically: Sec. cor.

Rough feeling in E.: Ail. gl., L. E.; kali b., tarsi; sep.

Rub the E., desire to: Apis, graph., kali b., also L.; mezer., nat. mur., *puls.*, sulph.

Rubbing on E. B., sensation of: Ars., sulph.

Sac over the E., as a: Apis, U. L.

Sand in E., feeling of: Acon., apocy. c., ars., aur., bell., berb., cann. sat., *caust.*, china, euph., fluor ac., hep., ign., kali b., kali c., kobalt., lemnum, lith. carb., *nat. mur.*, phyto., psor., puls., sep., sil., sulph., thuja, zinc., zingiber.

Salt, feeling as from: Canth., nux v., sulph.

Scabs on: Nat. mur., margins.

Scalding: Bry., in eth.; phyto., feeling of —, margins.

Scale on E. like a: Kali b.

Scales on: Sep., margins.

Scleritis: Bry., cinnabar, colch., pain as in —; kalmia, *thuja.*

Sclero-choroditis: Kalmia, prunus spin., sil., spig., thuja.

Scratch the E., must: *Puls.*, sulph.

Scratching sensation: Sep.

Scurfs: Alum, L.; *graph.*, margins, covered with; sep., dry — on L., on waking.

See anything on the table, cannot: *Lyc.*, evening.

Sensitive: *Acon.*, L.; E.; upper half of E.; agar., E. B.; apis, L., very —; arg. nit., E. B.; aur., bell., borax, brom., cann. ind., cepa, touch; worse L. E.; clem., *graph.*, hep., to touch, excessively —; kali b., touch; merc. sol., L.; touch; fire-light; nat. mur., spig., touch; sulph., margins; terebinth., touch; thuja, E. B. to touch.

Sharp pain: Act. rac., from occip. to E.; asaf., — through the E. into head; atropia, under R. E.; *bry.*, E. into head; cedron, starting from one point over E. extends into head;

colch., in and around E. B.; colcy., R. E. B.; duboisin, upper part of E. B.; kali c., R. orbit and E.; lil. tig., over E.; mur. ac., L. E. to R. E.; nat. mur., over (R.) E.; E. B.; nux v., E.; physostigma, R. E.; phyto., goes through E. B.; *prun. spin.*, through E. back into brain; — above E. external into and around it, or over the corresponding side of head; from behind ears forward to E.; rhus t., runs from E. into head; spig., (see "stabbing"); sulph., tere binth., thuja.

Shining: Calc. iod., L.; hep., L.; nat. mur., skin around E.

Shocking pain: Apis, over R. E. extending to E. B.

Shooting pain: Act. rac., from E. to vertex; apis, bell., from within outward; berb., violent — through into brain; or from temples into E.; sometimes into arms; *bry.*, E. into head; cedron, severe — over L. E.; cepa, R. lach. duct; cinnabar, R. int. cth.; hep., ipec., through E. B.; kali b., from root of nose along L. orbit arch to the exterior angle of the E. exactly; kobalt, merc. sol., nat. mur., E. B.; physostigma, R. E.; prun. spin., (see "sharp pain"); rhodod., — outward; sil., spig., through forehead; sulph., beneath L.; L. E.; middle of pupil; E. back into head; verat. vir., L. E.

Short to cover, L. appear too: Guaiac.

—— sight: (see "Myopia.")

Sleepy feeling in E.: Asaf., cinnabar, con., cuph., jacca, merc. sol.

Sluggish adaptation of E. to varied range of vision: Con.

Smaller, as if E. became: Bry.

——, —— —— looks: Squilla, L. E.

Smarting pain: Acon., ail. gl., alum., L.; ambra, amm. c.,

apis, margins; arg. met., berb., L.; cth.; frequently only on small spots; calc. c., L.; canth., caust., cepa, like from smoke; inner surface U. L.; clem., colocy., con., int. cth.; euph., graph., hep., ext. cth.; hydras., iod., jaborandi, jacea, kali c., kobalt., L. when using E.; kreos., E. and margins; lept., lyc., marum v., cth.; merc. cor., margins; mezer., mur. ac., cth.; nat. mur., E.: L.; nux v., int. cth.; as from salt; petrol., int. cth.; phyto., E.; physostigma, podo., E.; ranun. bulb. and ranun. scel., E.; R. ext. cth.; ruta, senega, *sep.*, E.; R. E.; ext. cth.; sil., L.; E.; staph., sulph., palp. conj.; margins; cth.; L.; ustilago, E.; zingiber.

Smoke, feel as from: Cepa, china, croc. sat.

Smoky: Apis, cornea.

Snakes, sees them in line of vision: Arg nit.

Softening of: Thuja, inflammatory — of inner surface L.

Something arose before E., as if: Amm. m., L. E.

—— were in —, — —: (see "Foreign body.")

Sore: Acon., upper half of E. B.; margins; apis, L.; cth.; arg. met., L.; arg. nit., cth.; arn., L., slightly; ars., E. B.; badiago, E. B.; bapt., E. B.; bell., L.; borax, margins at ext. cth.; camph. L.; canth., on opening L., margins feel —; cham., cth.; cinnabar, comocladia, R. E. B.; croc. sat., burning; cup. perf., painful E. B.; euph., L.; gels., E. B.; glon., graph., int. cth.; ext. cth.; hamam., intense; hep., kali c., ext. cth.; ledum, L. L.; lith. c., as if —; lyc., macrotin, E. B.; merc. cor., around E. from the discharge; merc. sol., L.; *nat. mur.*, cth.; nit. ac., region of E.; nux v., margins; as if rubbed —; cth.; phos., E. B.; physostigma, E.; L.; phyto., psor., puls., int. cth.; E. B. to

touch; ranun. bulb., E.; R. L. L.; R. ext. cth.; rhus t., very — around R. E.; E. B.; sang., E. B.; sep., — feeling; int. cth.; margins; sticta, E. B.; sulph., palp. conj.; terebinth., — *zinc.*, int. cth.; ext. cth.; R. E.

Sore E., chronic: Bapt.

—— pain: Hamam.

Sparkling look: Canth., hyos.

Spasm of: Agar., ciliary muscle; bell., E.; calc. iod., L. euph., L.; jaborandi, accommodative apparatus; ciliary muscle; nux v., physostigma, — accommodation, which may be irregular; ciliary muscle; ruta, L. L.

Spasmodic affections: Agar., L.; muscles of E. R.; ciliary muscle; cann. sat., drawing in E.; cicut. vir., E. and appendages.

—— closure of L.: Alum, ars., gels., chronic; merc. cor., nux v., plumb., puls., rhus t., sulph.

—— contraction —— ——: Plumb., rhodod.

—— motion of E.: Bell., selen, L. E.; sec. cor., as if rotated.

Splinter, as from a: Sil., sulph.

Spots before E.: Physostigma, thuja, like bottles of water moving.

—— —— —— black: Act. rac., agar., L. E.; amm. c., large — ; bary c., calc. c., camph., carb. v., chin. sulph., size of pin's head, about eighteen inches from R. E., and moving with E. for some weeks; glon., lith. carb., lyc., magn. c., merc. prot., merc. sol., nat. carb., nit. ac., paris quad., phos., phos. ac., sep., many —; sil., especially R. E.; tabac., verat. alb.

—— —— —— blinding: Chelid.

Spots before E., blue: Kali c., sec. cor.
Spots before E. bright: Bell., kali c., plat.
—— —— ——, confused: Con.
—— —— ——, dark: Act. rac., apis, china, coccul., though objects appear clearly; phos., *sulph.*, valerian, — to the side of line of vision.
—— —— ——, dazzling: Chelid., *phos.*, plat., valerian.
—— —— ——, like fire-flies: Thuja.
—— —— ——, fiery: Aur., bary. c., in the dark; bell., as of electricity; calc. c., camph., — wheels; caust., cyclam., gels., graph., nat. mur., nux v., phos., plat., psor., sec. cor., sep., valerian, zinc.
—— —— ——, like flies: Merc. sol.
—— —— ——, flying: Amm. m., sec. cor.
—— —— ——, like flying webs: Bary. c.
—— —— ——, gray: Arg. nit.
—— —— ——, green: Kali c.
—— —— ——, jumping up and down: Croc. sat.
—— —— ——, luminous: Thuja, — disc.
—— —— ——, persistent: Sil., before R. E.
—— —— ——, like sparks: Bell., calc. c., camph., caust., chin. sulph., china, cina, shower of bright — ; cyclam., dulc., glon., kali c., bright —; lyc., nat. mur., phos., plat., sep., spig.
—— —— ——, serpents: Arg. nit., ign.
—— —— ——, striped: Con.
—— —— ——, yellow: Amm. c., on looking at white objects; amm. m.
—— —— ——, like zigzags: Graph., around outside of field of vision, with E. open; ign., lach., sep.

Spots on: Euph., cornea; kali b., sclera, — yellow brown; brown — cornea; millef., nit. ac., cornea; phos. ac., yellow; puls., a red (inflamed) — sclera, near cornea; ruta, co rnea; sil., cornea.

—— —— E., burning: Phos., E. B.

—— —— ext. cth., moist: Ant. c., canth.

—— —— E., smoky: Apis, on cornea.

Squinting: (see "Strabismus.")

Stabbing pain: Spig., through the E. B., back into head or radiating; —; under both L.; constant — R. E. B., and corresponding side of head.

Staphyloma: Apis, calc. iod., merc. cor., commencing —; nit. ac., as a preventive; thuja.

—— posterior: carb. v. (?), phos., prun. spin., ruta, spig.

Staring look (see also, "Look staring"): Acon., in apoplexy; asthma; alum, inclination to —; amyl nit., bell., bovis., at one point; camph., canth., cicut. vir., — at one and the same place and cannot help it; head bent forward; colch., eup. purp., glon., hyos., — at surrounding objects; self-forgetfulness; hyper., kali c., inclination to —; kreos., lauroc., merzer., at one spot; opium, spong., stram.

Stars before E: Alum, white —.

Startled look: Ail. gl., when aroused.

Steotoma: Staph., on palp. conj.

Sticky feeling: Berb., L. or in cth.; frequently only on small spots.

Sticking pain: Asaf., ulcer of cornea; calc. c., calc. iod., euph., ferr., L. E. brow; lach., — drawing from R. E. to vertex; merc. sol., in and around E.; nat. mur., R. E.;

petrol., int. cth.; E.; puls., L. and cth.; int. cth.; spig., (see stabbing); sulph., ext. cth.; zinc., int. cth.

Stiff feeling: Apis, L.; bell., camph., L.; kalmia, muscles around E.; L.; lach., nat. mur., muscles; nux mos., L.; phos., *rhus t.*, L.

Stinging pain: Æscul. hipp., deep in L. orbit; *apis*, aur., L.; calc. c., caust., as with needles; ferr., hep., L.; kali b., most in L. E.; kalmia, magn. c., mephit., nat. carb., nit. ac., puls., sil., E.; L. E.; spong., tarax., thuja, margins; E.; L.; valerian, margins; zingib., E. B.

Stitches: Amm. c., ant. c., E. B.; ars., every pulsation; aur., int. cth.; borax, L. E., in succession; brom., L. E.; L. U. L., extending to brow, forehead, and L. temple; calc. c., int. cth.; cham., cina, slow — from above upper orbital margin deep into brain; cyclam., violent formicating — in L. and E. B.; dros., severe — from within outward; euph., pressure; burning; gambog., — pain in E.; frequent; graph., from temple through E. to int. cth.; int. cth.; hep., hyper., R. E.; kali c., middle of E.; sharp —; kalmia, lach., like knives, coming from head; lith. carb., R. E.; lyc., mephit, as from needles; mur. ac., out of E.; nat. carb., needle like —, from within outward; nit. ac., paris quad., — middle of E.; psor., puls., ruta, L. frontal bone; sarsap., sec. cor., sep., sil., spig., violent — middle of E. and int. cth.; R. E. B.; stram., thuja, through center of L. E., commencing in center of brain.

Strabismus: Alum., of either E.; paralytic; apis, bell., due to spasmodic action of muscles; or from brain affections; calc. ph., chin. sulph., intermittent; cicut. vir., spasmodic and periodic (not when dependent on an anomaly of re-

fraction); cina, cyclam., hell., hyos., jaborandi, nat. mur., divergent; nux v., traumatic; periodic; divergent; spig., with worms; stram.

Strained, E. feel: Ruta, excessively.

Streaks before E.: Phos. ac., black, not removed by wiping. —— in E.: Nux v., red — .

Stricture of lach. duct.: Arg. met., galvanism, kali iod., nat. mur.

Strings were holding L. together, as if: Kobalt.

Stupid look: Kreos.

Styes: Amm. c., R. U. L.; alum, incipient —; ambra, as if a — were forming; calc. c., ferr., suppurating; U. L., graph., L. L.; prevents recurrence; hyper., L. L. L., lyc., more toward int. cth.; merc. sol., like a —; puls., L.; U. L.; subject to —; rhus t., red, hard swelling, like a stye on L. L. toward int. cth.; sep., staph., — hardened; particularly on U. L.; L. L. not involved in general; very circumscribed; one after another; leave little hard nodules on margins; stann., like from a —; sulph., to prevent recurrence; accelerates absorption; thuja, R. E.

Suddenly, pain stopping: Verat. vir., L. E.

Suffused: Ail. gl.

Suggillation (dark spots): Arn., sub.-conj.; kreos., conj. of R. E.

Sun, see another below it: *Senega*, — assumes an oval shape.

Sunken E: Ars., canth., cicut. vir., colch., cup. met., cyclam., glon., hell., kali c., kreos., nit. ac., oleander, phos., sec. cor., sulph., verat. alb.

Suppurating: Aur. met., L.; bell., L. carun. lach.; rhus t. and sec. cor., cornea; zinc., int. cth.

Surrounded by hot vapor, as if: Bell.

Swelling, chronic: Kreos., L. and margins.

Swollen, (Swelling): Acet. ac. and acon., L., especially the upper; ant. c., L.; æthu. cy., meibomian glands; agar., lach. gland; L., especially toward int. cth.; *apis*, L.; around the E.; arg. met., L. greatly —; *arg. nit.*, conj., toward int. cth.; carun. lach.; L.; ars., —, this is non-inflammatory and painless; arum tri., margins; asar. eup., L. U. L. somewhat —; aur., L.; bary. c., L.; bell. L. L., near int. cth., inflamed; L.; L. carun. lach.; brom., lach. gland; bry., conj.; calc. c., L.; calc. iod., erysipelatous — L., chiefly U. L.; cham., L.; conj.; chelid., conj. as far as cornea; L.; cyclam., U. L.; dig., L. L.; euph., L.; margins; meibomian glands; ferr., graph., margins; L.; lach. gland; guaiac., hamam., E. B.; L.; hep., U. L.; meibomian glands; margins; ign., U. L.; ipec., R. L.; kali b., L.; kali c., L., margins worse; — like a bag between U. L. and eyebrows; enormous bag-like swelling under E.; kali iod., L.; *iris;* kreos., L., chronic —; margins; lyc., L.; R. E.; magn. c., E. B.; mang. acet., merc. cor., indurated margins; around E.; merc. precip. rub., bright red —, conj.; merc. sol., L.; inflammatory — in region of lach. bone; great —; lach. sac; mur. ac., L.; nat. carb., dermoid — of conj.; nit. ac., L.; dermoid — E.; nux v., E.; L.; opium, L. L.; petrol., L.; phyto., inflamed —, as large as a pigeon's egg, in int. cth.; hard —; reddish blue — L., L. L. worst; puls., L. L.; margins; L.; rhus t., sac-like — of the conj.; L.; red, hard —, like a stye, L. L. L.; meibomian glands; sep., E.; conj.; sil., R. lach. sac and skin over it inflamed; glands in region —; squilla, U. L.;

stann., pustular — L. int. cth.; sulph., L.; terebinth., L.; zinc., U. L. toward int. cth.

——, as if: Acon., apis, around L. E. in superciliary ridge; arum tri., L. L.; bapt., calad., cyclamen, L.; guaiac., opium, paris quad., rhus t., L. E.; enormously; thuja, L.

Synechiæ: Hyper. and prun. spin., ant. —; merc. (and causes them to soften); nit. ac., sulph. and terebinth., post —.

Tears, E. full of: Verat. alb.

—— gush out: *Rhus t., sulph.*

Tearing in: Arn., (L.) eyebrow; berb., L. E.; chelid., in and above E.; L. E., extending to zygoma and teeth, forehead and temples; colch., in and around E. B.; hyos., R. E.; ipec., iod., around R. E., passing backward from int. cth. to articulation of jaw; kali c., R. orbit and E.; merc. cor., in bone above L. E. near root of nose and in other bony parts; merc. sol., in and around E.; nux v., plumb., E.; nightly; puls., rhus t., region of eyebrows; sil., *spig.*, (see "Tense"); staph., thuja, L. eyebrow; verat. alb.

Tender: Kali b., L.; sil.

Tense feeling (pain): Acon., L.; amm. c., R. U. L.; arum tri., L. L.; aur., violent; camph., L.; crot. tig., R. orbit; hep., L.; ipec., *jaborandi*, of accommodative apparatus, with approximation of the nearest and farthest points of distinct vision; nux v., oleander, paris quad., around eyebrow; puls., sil., *spig.*, especially beneath L. frontal eminence, extending toward the orbits, worse in R. frontal eminence; staph., sulph. ac.

Tension, intra-ocular: Eserine, relieves.

Thick: Alum., L. not much —; apis, cornea; arg. met., L.

very —; arg. nit., L.; merc. oxyd. flav., slightly —; *merc. sol.*, U. L.; L.; paris quad., as if skin around eyebrow were —.

Threads were drawn through E. B., as if: Paris quad., — and backward into middle of brain.

Throbbing: Apis, ars., asaf., *bell.*, ben. ac., E. B.; hep., — pain; lith. carb., deep in R. E., and around it; merc. prot., merc. sol., sil.

Thrust-like pain: Spig. (see Tension).

Tickling: Zinc., R. E., frequently.

Tight feeling: Acon., L.; sep., L.; sulph., L.

Tinea ciliaris: Magn. m., thuja, dry, bran-like —.

Tingling pain: Phyto., E.

Tired feeling in E.: Ant. t., as if they would close; duboisin, graph., jaborandi, easily; psor., sep.

Torn out, as if: Bell., *prun. spin.*, inner portion of E. —.

Torpor of: Jaborandi, — retina.

Tortuous: Duboisin, retinal veins; vessels of optic disc.

Trachoma: Alum. exsic; used int. and ext.; ars., chronic; aur., calc. c., carb. ac., locally; caust., chin. mur., cup. alum., int. and ext.; cup. sulph., locally; euph., papillary —; kali b., merc. peren., merc. cor., tending toward; merc. prot., merc. iod., merc. precip., chronic; nat. mur., nux v., old cases; petrol., puls., sang., tending toward; sep., sulph., acute and chronic; thuja.

Trembling (see Quivering): Apis, E. B.; ars., U. L.; bell., R. U. L.; cann. ind., before E.; iod., L.; plat., L.; senega, verat. alb.

Trichiasis: Aur.

Tumefied: Bell. and kali iod., conj.

Tumors: Calc. c., puls., sep., sil., staph., thuja, and zinc., tarsal —; caust., L.; hep., palp.; hydrocotyle, L., especially epithelioma; kali iod., of orbit; sulph., accelerates absorption of tarsal —.

Turbidity: Asaf., of humors.

Turned around, as if E. were: Spig., spong.

—— outward: Camph.

—— upward: Camph., hell., verat. alb., showing only whites.

Turn the E., can scarcely: *Rhus t.*

Twinkling before E.: Cann. ind.

Twisting sensation: Physostigma, spong (?).

Twitching: Æscul. hipp., L. — muscles under L. E.; *Agar.*, frequent slight — L.; E. B., especially L. E. B.; painful —; alum., especially R. U. L.; bell., L. U. L.; caust., visible — L.; L. eyebrow; chelid., L.; croc., L.; U. L.; gels., L.; glon., graph., beneath the E.; ipec., L.; jaborandi, L.; kali b., L.; lachnan., U. L. — visibly; merc. peren., U. L., especially L. E.; mezer., annoying — of muscles of L. U. L.; nat. mur., R. L. L.; a great deal; nux v., L.; paris quad., R. U. L.; *physostigma*, L.; around E.; plat., L.; rheum, L.; — convulsive; scutel., L.; selen., spasmodic — L. E. B.; sil., L.; spig., chronic — L.; ustil, verat. vir.

Type seem to move: Agar.

Ulcerate, as if it would: Spig.

Ulcer-ating-s: Alum., not much; apis, cornea; margins and cth.; syphilitic — L.; arg. nit., cornea; in new-born infants; small — on upper part of cornea; arn., traumatic; ars., superficial and deep-seated; cornea; margins;

asaf., extensive superficial —, cornea; aur., cornea, in the course of pannus; L.; bary. c., cornea; calc. c., cornea; — in center of cornea, with more or less haziness of corneal tissue and no vascularity; calc. hypophos, cornea; calc. iod., particularly cornea; cham., chin. mur., cinnabar., con. and crot. tig., cornea; cundurango, superficial — cornea; duboisin, slow form of —; cornea; euph., cornea; superficial —; — margins; graph., margins; cornea; with a few vessels running into it; chronic recurrent —; with moist, fissured, eczematous eruptions; hamam., cornea; hep., cornea; margins; deep sloughing; external parts of E., which bleed easily; hydras., with or without —, ophthalmia; ipec., cornea or conj.; kali b., indolent — of cornea or conj.; bore in without spreading laterally; kali c., corners of E.; small round —, cornea with no photophobia; kreos., lach., cornea; lyc., L.; merc. cor., deep — on cornea; *merc. nit.*, as a caustic in syphilitic — L., — cornea; merc. oxyd. flav., where — of L. are indolent; locally; merc. precip. rub., cornea, superficial —; *merc. prot.*, commencing at corneal margins, and extending, involves only the superficial layers, either over the whole cornea, or a part of it, particularly the upper part; — serpiginous form; merc. sol., cornea, vascular and surrounded by a grayish opacity; with — between layers of cornea; — deep-seated or superficial; nat. carb., cornea; small —; *nat. mur.*, chronic recurrent cases; cornea; *nux v.* and podo., cornea; *puls.*, small — occurring near the centre of cornea; rhus t., superficial on cornea; *sil.*, cornea; L. E.; sloughing —; crescentic; small round; non-vascular; centrally located; staph.,

styes; nodosities; chalazium; sometimes —; sulph., superficial and deep — cornea; margins.

Uneasy sensation: Ars., L.

Unyielding: Phyto., L. to touch.

Up-turned E.: Glon.

Use E. cannot: Alum, because they are dry.

Vascillate: Stram., E.

Vascular elevations: Ars.

——, (see "Vessels," or "Red.")

Vesicles, on: Euph., cornea; rhus t., L.; selen., itching — margins and E. brows; sulph., white — close to cornea.

Vessels enlarged: Duboisin, — and tortuous; optic disc.

—— degenerated: Phos., in retinitis albumen.

—— red: Arg. nit., clusters of — extending from int. cth. to cornea; aur., bell., on conj.; calc. ph., visible in streaks from the cornea; cann. ind., cann. sat., *duboisin*, optic disc; hamam., greatly; ipec., kali iod., merc. cor., merc. precip. rub.

Vibrating spectra: Agar.

Vision blurred: Euph., lil. tig., nux v., physostigma, psor., ruta, thuja.

—— changing constantly: *Jaborandi.*

—— clairvoyant: Cann. ind.

—— clear: Hyos., valerian.

—— cloudy: Phos., sep., stram., zinc.

—— confused: Gels., kali b., *nat. mur.*, cannot distinguish anything for five minutes; stitches run together; psor., rhus t.

—— darkened: Puls., as if from mucus; verat. vir.

—— deceptive: Hyos., lith. carb.

Vision dim: Agar., alum., arn., aur., bary. c., bell., bry., calc. c., cact. gr., caps., carb. an., caust., chelid., china, chin. sulph., coccul., colch., con., croc. sat., cyclam., dulc., euph., *gels.*, glon., hep., hyos., ign., *jaborandi*, kali b., kali iod., kobalt., kreos., *lach.*, lil. tig., magn. c., mang. acet., merc. sol., nat. mur., nat. sulph., petrol., phos., phyto., puls., rhodod., ruta., sang., sec. cor., sil., sulph., tabac., thuja, verat. vir., zinc.

—— double: Act. rac., amm. c., arn., aur., bell., chelid., cicut. vir., con., cyclam., dig., gels., when inclining the head toward the shoulder; it can be controlled by an effort of the will; hyos., merc. cor., nat. mur., nit. ac., of horizontal objects at a distance; nux v., oleander, paris quad., rhus t., sec. cor., senega, spong., stram., — obliquely; tabac., therid. cur., in the distance; verat. alb.

—— dull: Ambra, sep.

—— good: Con., for fixed objects.

—— hazy: Amyl nit., con.

—— impaired: Con., when objects are distant; gels., not characterized by sudden changes; nat. mur., nux v., sang., senega.

—— indistinct: Agar., anac., borax, *caust.*, hyos., *jaborandi*, of letters at two feet; kali iod., merc. sol., sil.

—— increased: Coffea.

—— loss of: (see "Blindness"): Arn., bell., bovis, R. E.; nux mos., phos. ac., stram., in typhus; sulph., verat. vir.

—— —— —— nocturnal: (see "Vision, in the dark.")

—— —— —— transitory: Nat. mur., nitrum, nux mos., puls., phos., as from fainting; sil.

—— mixed up: Aur. met.

Vision obscured: Amm. c., amm. m., by an apparent body, arg. nit., arum. tri., aur. met., bovis, L. E.; caust., —; momentarily; on blowing nose; cina, colocy., cup. met., euph., hep., hyos., iod., ipec., lachnan., lyc., magn. c., mur. ac., nit. ac., nux v., opium, plumb., inducing one to rest E.; psor., puls., rhus t., ruta, sang., sarsap., sec. cor., sil.

—— returns again: Nat. mur., on looking at another object.

—— sensitive: Nux vom., extremely.

—— triple: Sec. cor.

—— uncertain: Lith. carb., verat. vir.

—— unsteady: *Nat. mur.*, verat. vir.

——, vanishing: Ant. t., arg. met., arg. nit., graph., during menses; merc. sol., for a few moments; ox. ac., phos., sep., sil.

—— weak: Arg. nit., ars., bary. c., cact. gr., con., kali c., lyc., mephit., nat. mur., paris quad., petrol., puls., *ruta*, very —; sang., senega, verat. alb., fails to recognize those near, or does so but slowly; zingiber.

—— yellow: Cina.

—— -black-dark, before E.: Cina, clem., ferr., graph., nat. mur.

—— in the dark: China, ferr., hell., phos.

—— —— twilight: Phos.

——, cannot see in the dark: Hyos., *lyc.*, coming on in early eve; nit. ac., ranun. bulb., stram., sulph., verat. alb.

—— —— —— —— —— light: Sil.

—— as if through a cloud: Calc. c., caust., thick; dig., upper part; nux v.

—— —— —— —— dark-*blue* glass: Cyclam.

Vision as if through fog: Alum, chin. sulph., kali c., kali iod., lach., merc. peren., merc. sol., puls., sulph.

—— —— —— —— —— gauze: Acon., ars., white; bary. c., caust., dros., dulc., kreos.

—— —— —— —— feathers: Lyc., nat. carb.

—— —— —— —— something that floated before the E.: Kreos.

—— —— —— —— mist: Ambra, amm. m., asaf., camph., caust., chelid., con., cyclam., graph., merc. peren., millef., nat. mur., petrol., phos., plumb., ranun. bulb., sil., sulph., thuja.

—— —— —— —— mucus: Puls., which ought to be wiped away.

—— —— —— —— net: Carb. an., chin. sulph.

—— —— —— —— shadow: Calc. os., obscuring one side of the object; ruta.

—— —— —— —— smoke: *Gels.*, phos.

—— —— —— —— turbid water: Agar.

—— —— —— —— a white vapor: Bell., plumb.

—— —— —— —— a thick veil: Agar., ant. t., arum tri., caust., croc. sat., euph., hyos., iod., lauroc., lyc., phos., black; gray; puls., rhus t., stram., sulph., tabac., therid. cur.

Warts on: Caust., E. brows; L.

Watery E.: Cepa, con., merc. peren., nux v., puls., rhus t., thuja, verat. alb.

Water, E. seem swimming in cold: Squilla, — whenever in cold wind.

——, were constantly coming into the E., as if: Croc. sat.

Wavering before E: Dig.

Waves, sensation of moving bright: Borax, now from right to left, again from above downward.

Weakness: Agar., int. rect. mus.; alum., U. L., especially L. U. L.; galvanism, gels., int. rect. mus.; merc. peren., U. L.; nat. mur., ruta, ciliary muscle, more than int. rect. mus.

—— of E.: Agar., not having exerted them; amm. c., carb. an., carb. v., cinnabar, con., dros., ferr., hamam., painful; kali c., kalmia, lil. tig., merc. peren., nat. sulph., opium, physostigma, ranun. scel., great —; rheum, senega, sep., sil., stann., sulph., thuja.

Weary look of E.: Cyclam.

—— pain: Ruta.

Weeping, feeling in E. as after: Croc., nat. mur.

Weight laid on E., as if a heavy: Carb. v., con., sulph., E. B.

Wens: Graph. L.

Wheels, before E. colored: Nitrum.

Wide open, E.: Hell., lauroc., lyc.

Wild looking: Glon., hyos., sec. cor., stram., valerian.

Wind blowing on E., feeling as from: Berb., — cold; croc., cold —; fluor. ac., — cold; — fresh, under the L., (even in warm room).

Wink, frequent desire to: Phos. ac.

——, inclination to: Mezer., spig., great —.

——, must constantly: Caust., croc. sat., frequently; euph., *fluor. ac.*, as if something in E. could be rubbed off; gels., spig.

Wipe E., must frequently: Alum., ars., croc. sat., euph., as if a hair hung over E.; kreos., nat. carb., puls., senega.

Within outward: Asaf., bry., R. orbit.

Without inward: Aur.

Work rightly, seems not to: *Physostigma*, int. mus.
Wrenched, as if: Prun. spin., E. B.
Wrinkle, difficult to: Paris quad., — skin around E.
Yellowness of conj. or sclera: Ars., bell., canth., cham., chelid., con., crot. hor., dig., eup. perf., eup. purp., with the chill; iod., ipec., kali b., lach., lept., magn. m., nit. ac., region around E.; nux v., lower part E. B.; plumb., sang., sep.

REMARKS AND EXPLANATIONS.

Symptoms are clinical as well as pathogenetic.

Where the remedy is stated, and nothing else, the whole eye is implied.

Sometimes L. L. signifies lower lid, and sometimes left lid; these abbreviations were deemed necessary for brevity, and yet will often be an aid, when the symptom is very marked.

The dash has reference to the subject of the paragraph.

Ext. cth. and int. cth., have reference to the external and internal canthi; and ext. and int. to external and internal.

Grammatical construction is often violated for brevity's sake.

INDEX.

Abscess of the brain 129
" " " cornea 28
" " " ear 119
" " " lachrymal sac 97
" " " lids 91
Accommodation 81
Accommodative asthenopia 82
Acne of the lids 91
Acute catarrh 117
" suppuration 119
Adhesion of the edges of the lids 101
" of lids to eyeball 101
Air-bag, inflation with 134
Albugo 26
Ametropia 81
Anchyloblepharon 101
Anterior synechiae 38
Apparatus, lachrymal 97
Application, local 68
Artificial membrana tympani 136
Asthenopia 82
" accommodativa 82
" muscularis 82
Astigmatism 83
" irregular 84
" mixed 84
" regular 84
Auricle, the 115

Bandages 78
Bats-wing 59
Blenorrhœa of conjunctiva 54
" " lachrymal sac 98
Blepharadenitis 92
Blepharitis, ciliary 92
" marginalis 92
Bodies, foreign, in the ear 109
" " " eye 104
Boils in the ear 111
Brachymetropia 84
Burns, of conjunctiva 102
" " lids 102

Cancer of lids 91
Catarrh, acute 117
" chronic 123
" of lachrymal sac 97
Catarrhal conjunctivitis 52
Catheter, Eustachian 134
Cerebral abscess 129
Cerumen, inspissated 110
Chalazion 105
Chemical injuries of conjunctiva 102
Chronic catarrh 123
" suppuration 126
Ciliary blepharitis 92
Circumscribed inflammation of ear 111
Cloudiness of cornea 26
Cone of light 135
Conjunctivitis 52
" catarrhalis 52
" diphtheritica 57
" gonorrhœal 54
" granulosa 55
" phlyctenularis 58
" purulent 54
" pustular 58
Consequences of chronic suppuration 128
Contraction of pupil 42
Cornea, cloudiness of 26
Corneitis 25

Dacryo-blenorrhœa 98
" -cystitis 97
Deaf-mutism 142
Diffuse keratitis 30
Dilatation of the pupil 42
Diphtheritic conjunctivitis 57
Distichiasis 91
Dryness of the conjunctiva 56

Ear, external 109
" internal 138
" middle 117
Ear-wax, hardened 110
Ecchymosis of conjunctiva 53
" " lids 91
Ectropion 91
Eczema, of the ear 112
" " lids 91
Emmetropia 81
Entropion 91
Epilation of lashes 92
Erysipelas of lids 91
Eustachian catheter 134
Eversion of lid 56

Exanthematous ophthalmia..... 52
Exclusion of pupil..... 38
Exostoses..... 130
External ear..... 109
Eye, repertory of the..... 147
Eye-tension..... 64

Falling of the lid..... 91
Farsightedness..... 89
Fistula lachrymalis..... 97
Foreign bodies, in the ear..... 109
" " " eye..... 104
Frost bites..... 115
Furuncle..... 111

Glasses, protective..... 80
Glaucoma..... 64
Gonorrhœal ophthalmia..... 54
Granular lids..... 55

Hereditary syphilis..... 31
Hemorrhage in conjunctiva..... 53
Hernia of the cornea..... 28
Herpes " " 31
" ophthalmicus..... 31
Hordeolum..... 105
Hyperæmia of conjunctiva..... 52
Hypermetropia..... 87
Hyperostosis..... 130
Hypertrophy of conjunctiva..... 59
Hypometropia..... 84
Hypopyon..... 29

Increased eye tension..... 64
Indurations of lids..... 92
Inflammation of conjunctiva..... 52
" catarrhal..... 52
" diphtheritic..... 52
" granular..... 55
" phlyctenular..... 58
" purulent..... 54
Inflammation of the cornea..... 25
" parenchymatous..... 30
" phlyctenular..... 31
" suppurative..... 28
" vascular..... 30
Inflammation of the iris..... 37
" gonorrhoeal..... 37
" parenchymatous..... 39
" plastic..... 38
" rheumatic..... 37
" serous..... 38
" simple..... 38
" suppurative..... 39
" syphilitic..... 37
" iris and choroid..... 43
" iris and ciliary body..... 40
" lids..... 92
Inflation, methods of..... 135
Ingrowing lashes..... 91
Injuries to the eye..... 100
Injuries from acids..... 102
" " burns..... 102
" " quicklime..... 101
" " scalds..... 102
Inspissated cerumen..... 110
Internal ear..... 138
Interstitial keratitis..... 30
Inversion of lids..... 91
Irido-choroiditis..... 43
Irido-cyclitis..... 40
" sympathetic..... 41
Iritis..... 37
" gonorrhoeal..... 37
" parenchymatous..... 39
" plastica..... 38
" rheumatic..... 37
" serosa..... 38
" simple..... 38
" suppurative..... 39
" syphilitic..... 37
" traumatic..... 37

Keratitis..... 25
" diffuse..... 30
" interstitial..... 30
" pannosa..... 27
" parenchymatosa..... 30
" phlyctenularis..... 31
" pustular..... 31
" superficial..... 25
" suppurative..... 28
" traumatic..... 25
" ulcerative..... 27
" vascular..... 30
Keratocele..... 28
Kopiopia hysterica..... 82

Labyrinthine disease..... 138
Lachrymal apparatus..... 97
" fistula..... 97
" sac, inflammation of, acute. 97
" " " chronic. 97
Lenses..... 89
Leucoma..... 26
" adherens..... 26
Lids..... 91
Lippitudo..... 92
Local applications..... 68

Madarosis..... 92
Marginal blepharitis..... 92
Mastoid complications..... 130
Membrana tympani, artificial..... 136
Meniere's disease..... 139
Middle ear..... 117
Mucocele..... 98
Muscular asthenopia..... 82
Mydriasis..... 42
Mydriatics..... 68
Myopia..... 84
Myosis..... 42
Myositics..... 72

Naevi of lids 91
Nearsightedness 84
Nebula 26
Nervous deafness 138
Noises in the ear 140
Nystagmus 26

Occlusion of pupil 38
Old-sight 89
Onyx 29
Opacities of cornea 26
Ophthalmia, arthritic 64
" catarrhalis 52
" Egyptian 54
" exanthematous 52
" gonorrhœal 54
" granular 55
" military 54
" neonatorum 54
" phlyctenular 31
" purulent 54
" pustular 31
" sympathetic 41
" tarsi 92
Optico-ciliary neurotomy 42
Oscillation of eye-balls 26
Otitis media catarrhalis acuta 117
" " purulenta " 119
" " catarrhalis chronica 123
" " purulenta " 126
Otitis parasitica 114
Otorrhœa 126
Oversight 87

Pannus 27
Paracentesis of cornea 39
Parenchymatous keratitis 30
Phlyctenular conjunctivitis 58
" keratitis 31
" ophthalmia 31
Pinguecula 59
Politzer's method of inflation 134
Polypi of the ear 128
Posterior staphyloma 85
" synechiae 38
Presbyopia 89
Proliferous inflammation 123
Protective glasses 80
Pterygium 59
Ptosis 91
Pupil, exclusion of 38
" occlusion of 38
Purulent conjunctivitis 54
Pustular " 58
" keratitis 31
" ophthalmia 31
Pyramid of light 135

Refraction 81
Repertory of the eye 147
Rheumatic iritis 37

Saemische's operation 29
Scalds of the lids 102
Sclerosis of the ear 123
Serous iritis 26
Shades 79
Short-sight 84
Spasm of accommodation 85
" ciliary muscle 85
Spectacles 89
Staphyloma, anterior 26
" of cornea 26
" " iris 27
" " cornea and iris 26
" posterior 85
Styes 105
Superficial keratitis 25
Suppuration of cornea 28
" " ear, acute 119
" " " chronic 126
Suppurative keratitis 28
Symblepharon 101
Sympathetic irido-cyclitis 41
" irritation 41
" ophthalmia 41
Synechiæ, anterior 38
" posterior 38
Syphilis, hereditary 31

Tarsal blepharitis 92
Therapeutics, aural 109
" ocular 19
Tinea tarsi 92
Tinnitus aurium 140
Trachoma, granular 56
" mixed 56
" papillary 56
Trichiasis 91
Tumors, of the ear 128
" " eye 105
Tylosis 92

Ulceration of cornea 27
Ulcerative keratitis 27
Ulcers of cornea 27
Unguis 29

Valsalva's method of inflation 134
Vegetable fungi 114

Warts of the lids 91
Weakness of accommodation 82
Wounds of the eye 100

Xerophthalmia 56

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